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SCHOLASTIC

Teacher EDITION

World Week

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ATOMIC ENERGY: Friend or Foe?

and other teaching aids for this issue

IN THIS ISSUE

For all classes: "Freedom Answers Communism," p. 30.

World History: "Newsmakers," p. 4; news pages, 5-8; atomic energy unit, esp. pp. 9-10.

World Geography, Economic Geography: atomic energy unit, esp. pp. 11-12.

American History, Problems of Democracy: "Newsmakers," p. 4; news pages, 5-8; atomic energy unit, pp. 9-12.

Civics, Citizenship: Good Citizens: "B-Day," p. 31.

Life-Adjustment: "Ask Gay Head," p. 32; "How Would You Solve It?" p. 32; Career Club: "She Works with 'Hot' Stuff," p. 29.

Freedom Answers Communism (p. 30)

The theme of this week's article is the right of every American to work where, and for whom, he chooses. This is compared with the lot of the worker under Russian communism.

Procedure

If the class has been discussing the Freedom series regularly, call on several students to review the high points of American basic rights as contrasted with life under communism.

If you are using the magazine for the first time this semester and the series is new to the class, the basic content of the previous articles can be gotten by reviewing the constitutional rights of Americans with emphasis on the Bill of Rights. Students can write summaries of these right on the board, having worked them up previously.

Discussion Questions

1. If you were given the responsibility for setting up a "Bill of Rights for the American worker," what would you include? Justify your choices.

2. What rights would you include in a similar list for the American business man? Justify your choices.

3. Russia teaches that American workers are "wage slaves" but that Russia is a "worker's paradise." How do you explain the fact that the Russian people fall for this line?

Activities

Using *World Week*'s "Freedom Answers Communism" series, history texts, and encyclopedias, bright students can prepare reports on communism in its various aspects—religion, education, five-year plans, the meaning and general philosophy of communism.

WHAT'S AHEAD

February 17, 1954

Unit: Tropical Africa
Good Citizens: Traffic Safety

February 24, 1954

Special Issue: TEEN-AGE CITIZEN
Good Citizens: International Work Camp (Brotherhood Week feature)

March 3, 1954

Unit: Russia

March 10, 1954

Unit: China

Unit: ATOMIC ENERGY (pp. 9-12)

Contents

1. *Cover picture* showing a safety outfit worn by some atomic energy workers. (Cover story, p. 35.)

2. *Page 4:* "Newsmakers"—two men important in current atomic developments.

3. *News pages:* atomic battery—first direct use of atomic energy for power.

4. *Pages 9-10:* Problems raised by the atomic arms race. The U.N. and Russian plans for control of atomic energy. President Eisenhower's recent proposal on atomic energy. Our defenses against possible atomic attack.

5. *Pages 11-12:* How atomic energy is being used and can be used for peaceful, productive purposes.

6. *Page 29:* An example of a career in atomic energy ("Career Club.")

Assignments

1. *Pages 9-10:* (1) Summarize the U.S.-U.N. plan for controlling atomic energy. What was Russia's position on this plan? (2) Why is the atomic arms race a danger to world peace? (3) What did President Eisenhower propose in his "atom-bank" plan for the use of atomic energy? (4) What are U. S. defenses against a possible atomic attack?

2. *Pages 11-12:* (1) Give four ways in which atomic energy is being used, or can be used, to benefit mankind.

ATOMIC ARMS RACE (pp. 9-10)

Aim

To discuss the implications of the atomic arms race for world peace. To discuss proposals for international control of atomic energy.

Student Reading References

Readers' Guide to Periodical Literature lists references on atomic energy, such as: (1) "Eisenhower's Plan for the Atom," *U. S. News*, 12/18/53. (2) "No Secret, No Time and No Defense," *Christian Century*, 9/2/53. (3) "How to End a World," *Newsweek*, 10/19/53. (4) "U. S. as a Bombing Target," *For-*

tune, 11/53. See also "Tools for Teachers," Feb. 3 issue of *World Week.*

Procedure

1. In core classes and in other classes where time makes it possible, show the class a film or filmstrip, such as "World Control of Atomic Energy." Teaching the science of atomic energy depends on student interest, intellectual maturity, the time available and your own background. Science teachers could take up this phase of the work, correlating it with yours. If possible, conduct a double period where both you and the science teacher integrate your teaching.

2. Another approach could be to conduct the lesson as a round-table discussion led by a student chairman. Panel students should be assigned to the outside readings. Leave time in the lesson for questions by the rest of the class.

Motivation

Tell the class the story of the monster created by Frankenstein—the "thing" which destroyed its creator. Do you think that scientists in learning to use atomic energy have created a "Frankenstein monster"? Justify your answer.

Discussion Questions

1. Someone said recently, "It doesn't make much difference whether we have 2,000 bombs and Russia has 500 bombs. After each side drops 100 A-bombs on the other, there will be no one around to worry." How does this statement influence your thinking on the atomic arms race?

2. Do you think the U. S. should share its atomic secrets with its allies? Why or why not?

3. Call on students to interpret the cartoon on page 9. Direct the attention of students to the board, which shows the U.N. and Russian plans for atomic energy control. What do both plans have in common? Where is the stumbling block? How does the cartoon help you understand why the U.N. has rejected Russia's plan?

4. Read President Eisenhower's plan for atomic energy. Do you think it is possible of achievement? Why?

5. A writer said, "The only real defense against the A-bomb is peace." Do you agree?

Activities

1. In preparation for this lesson ask a student to read John Hersey's *Hiroshima* for a brief but vivid account of the effects of the first A-bombing.

2. Students can be assigned to get further details on the U.N. and Russian plans for atomic energy controls. History books are ready references.

3. Ask students to visit your local civil defense, police, and fire stations to learn what is being done in your community for atomic defense preparations. They can also ask what teen-agers can do to help.

4. The school librarian can prepare a reading list and book display on the subject of atomic energy.

5. Students may want to build a scrapbook on the theme of atomic energy.

"MR. ATOM" (pp. 11-12)

Student Reading References

(1) "Peacetime Atomic Power," *Newsweek,* 11/9/53. (2) "Atomic Miracles We Will See," *Look,* 8/25/53. (3) "Power by G.E.," *Newsweek,* 10/26/53.

Procedure

1. Does your school or community library have a collection of pictures which show the peacetime uses of atomic energy? Do you have a film or filmstrip available on this subject? Integrate them with class discussion.

2. Ask students to interview a doctor, a druggist, an engineer, a science teacher, a county farm agent, etc., on how atomic energy is being put to use or can be used in their particular field.

3. Have the class study the cover-page picture before reading the cover page story. Would you say that this outfit was one dreamed up for a science fiction story? Then let the class read the cover story (p. 35), the lesson building itself from reactions and comment.

Discussion Questions

1. The new submarine, *Nautilus,* will be the first vehicle to be powered by atomic energy. How could this use of atomic energy work for mankind's benefit?

2. What changes could atomic energy power plants bring into the lives of people in countries which lack supplies of coal and oil?

3. How have isotopes given a "new set of eyes" to doctors? scientists? engineers?

Activities

1. As a lesson summary, have students prepare a chart listing the fields of medicine, agriculture, and industry. Let the chart show how atomic energy has been put to a constructive use in each field. (See also newspaper for story on atomic battery.)

2. As a lesson application, try a composition in creative writing to exercise student imagination. Let students predict the world 100 years from now when atomic energy is more completely under man's control.

TOOLS *for* TEACHERS

Teen-Age Citizen

***World Week,* Feb. 24**

FILMS: Boy Governor, 22 minutes, sale, Association Films, Inc., 347 Madison Avenue, New York 17, N. Y. How a "boys' state" teaches teen-agers practical democracy and good citizenship. *You and Your Family,* 8 minutes, sale, Association Films. Problems of dating, household chores, etc. The following films are for sale at Coronet Films, Coronet Bldg., Chicago 1, Ill.: *Are You a Good Citizen?,* 10 minutes. Qualities of a good citizen in a democratic society. *Starting Now,* 11 minutes. What the high school student can do to prepare himself for military service. *Family Life,* 10 minutes. Proper home management of schedules, responsibilities, privileges, and finances. *Earning Money While Going to School,* 10 minutes. Guide for students considering outside employment. *High School: Your Challenge,* 13 minutes. Why a high school education is essential in today's world. *Choosing Your Occupation,* 10 minutes. Self-appraisal, occupational possibilities, preparation requirements, guidance facilities. *Your Thrift Habits,* 10 minutes. Importance of careful budgeting.

FILMSTRIPS: *Citizens in a Democracy,* Curriculum Films, Inc., 41-17 Crescent Street, Long Island City 1, N. Y. Citizenship in Fairtown, the ideal community, and what it means to the individual. *Home Ground,* 36 frames, McGraw-Hill Book Company, Text-Film Dept., 330 West 42 Street, New York 36, N. Y. Pattern for cooperative family living.

ANWERS TO WORKBOOK, p. 36

I. *Read the Cartoon:* 1-atomic energy; 2-mankind, the world (or similar answer); 3-destruction of civilization by atomic weapons (or similar answer); 4-better means of producing goods, more prosperous world (or similar answer).

II. *Atomic Facts:* 1-T; 2-O; 3-F; 4-O; 5-T; 6-T; 7-O; 8-F; 9-T; 10-T.

III. *Atomic Talk:* 1-c; 2-e; 3-b; 4-d; 5-a.

Answers to Quick Quiz (p. 8)

1-The atom (atomic energy); 2-South Korea (Republic of Korea); 3-Italy; 4-Germany; 5-Treaties; 6-Gibraltar.

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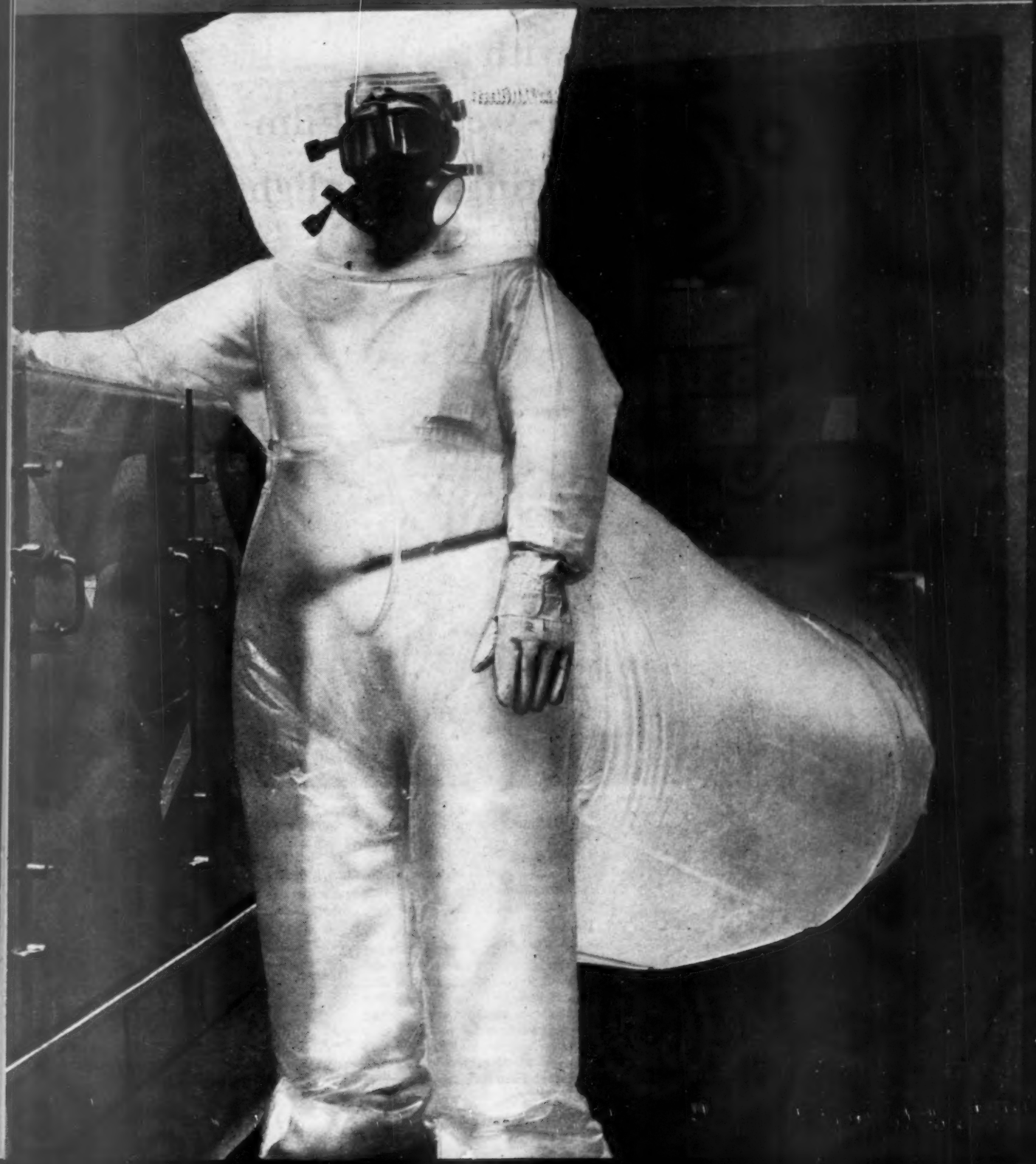
World Week

EBRUARY 10, 1954 • VOL. 24 • NO. 2 • Atomic Janitor's Suit, cover story p. 35
ATOMIC ENERGY Unit, pp. 9-12



Shutterbug's Page

EDITED BY KEN JOHNSON

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World Week

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Bob & Bill PROVE A POINT!
NO FOOLIN', BOB. THIS REMINGTON 521T IS A SWELL RIFLE FOR HUNTING AND PLINKING, TOO.
IT'S NEAT FOR TARGETS, BUT YOU'LL HAVE TO SHOW ME IT'S A HUNTING RIFLE!
HERE'S YOUR CHANCE. THERE'S THAT PESKY 'CHUCK IN THE GARDEN AGAIN!
NOW I'LL SHOW YOU WHAT THE 521T WILL DO IN THE FIELD!
IT'S A LONG SHOT— WHAT AMMO ARE YOU USING?
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Newsmakers

BOSS OF YOUR ATOM

YOU ARE one of the owners of the atom. The Federal Government—representing all Americans—controls the production and use of atomic energy in the U. S. In charge of the atom is the AEC (Atomic Energy Commission), consisting of five members appointed by the President. Chairman of AEC is Lewis L. Strauss, a soft-spoken ex-banker with an outstanding record as a public servant.

Advisory committees of leading scientists, military men, and Congressmen work with AEC. But as AEC chairman, Strauss is the "top boss" of Uncle Sam's vast network of uranium mines, atomic factories, laboratories, and testing sites.

So far, we Americans have invested more than 10 billion dollars in atomic energy. The figure is expected to reach 17 billions by 1957.

AEC arranges to have much of its work done by private organizations. More than 500 companies and colleges operate factories, laboratories, and other projects for AEC. About 160,000 Americans are at work in the atomic energy industry.

AEC works in secret—to prevent enemy spies from learning how the U. S. makes atomic weapons. AEC's employees must pass rigid loyalty checks. AEC's plants are under heavy guard night and day. The Atomic Energy Act forbids any American to reveal information on how AEC produces atomic materials, bombs, or atomic power.

Karsh, Ottawa photo
Lewis L. Strauss

It's Chairman Strauss' job to keep our nation ahead of Russia in the atomic arms race (*see p. 9*). If the President's "world atom bank" plan goes through (*see p. 10*), Strauss may oversee the U. S. contribution. He is in favor of giving private companies a chance to produce and sell atomic power for peaceful use (*see p. 11*).

Lewis Strauss was born 58 years ago in Charleston, W. Va., the son of a shoe wholesaler. He grew up in Richmond, Va., where he attended John Marshall High School. "As a high school boy," Strauss says, "I wanted to be a physicist, but I couldn't afford to go to college."

After graduation from high school, Strauss took to the road as a shoe salesman for his father. In a few years he was vice-president of the firm. But Strauss was restless. At 21 he went to Washington, D. C., and landed a job with a foreign relief agency headed by Herbert Hoover (later U. S. President).

In 1919 Strauss went to work for a Wall Street bank. He became a full partner in the firm and a director of many U. S. companies. In World War II Strauss served as a U. S. Navy officer. He came out of the war a rear admiral.

In 1946 President Truman appointed the financier a member of the first AEC. Strauss served until 1950, then retired to be financial adviser to the Rockefeller family. Last year President Eisenhower called him back, this time as AEC chairman.

International photo
Nicholas C. Christofilos

"WHAT DOES *HE* KNOW ABOUT ATOM-SMASHING?"

A MYSTERIOUS ENVELOPE arrived at the U. S. Patent Office in Washington four years ago. Out tumbled a sheaf of papers covered with mathematical figurings—and a letter which said in effect: "I know how to make an atom smasher more powerful than any in the world! My explanation is enclosed. I hereby apply for a patent on the idea." It was postmarked Athens, Greece, and signed: Nicholas C. Christofilos.

Was the letter from a learned scientist with a degree in atomic physics and an elaborate laboratory? No, he was an electrical engineer who worked in an elevator factory. All he knew about the atom was what he'd "picked up" in his spare time as a hobby. His "lab" was a desk, pencils, and paper.

In fact, "Nick" wasn't even a Greek. He was an American, born in Boston, Mass. His Greek parents had taken him to Greece when he was a boy.

The Patent Office forwarded his letter to atomic scientists at the U. of California. They were puzzled by the crude math "Nick" had used. "The idea won't work," they decided, and tossed it aside.

Then last year a team of physicists of the U. S. Atomic Energy Commission (who'd never heard of Christofilos) announced they had found a new way of increasing the power of an atom smasher. They called it the "strong-focusing principle."

"Nick" read the news in Greece. "Why, that's the idea *I* thought of!" he exclaimed. He hurried to the U. S. and laid his case before the AEC. The Commission examined his patent application and announced: "It's the same idea all right, and you beat us to it by three years." The AEC awarded "Nick" a sum of money for his patent rights.

Last month the AEC announced it will soon begin building an atom-smasher of the "strong-focusing" type (*W.W., Jan. 20, p. 5*). It will be the world's most powerful. With it, our scientists hope to learn many new things about the atom. Working side by side with the AEC physicists who are designing the giant atom-smasher is "Nick" Christofilos, 38—the amateur inventor who outsmarted the experts!

Quick Look at the News

INSIDE WORLD WEEK: WORLD NEWS IN REVIEW *(pp. 6-8)*—Big Four differ on how to unite Germany; Gibraltar is cause of riots in Spain; 21 pro-Red Americans vanish behind Iron Curtain; U. S. ratifies treaty with South Korea; Government probes coffee prices; Russia gets new flag; Fanfani is out as Italy's premier; President, in economic message to Congress, sees current "slump" as ending soon.

OIL ON OCEAN WATERS: At Quincy, Mass., this week, the world's biggest tanker ship will be launched. It is 737 feet long and 102 feet wide—larger than any vessel afloat except for five passenger "super-liners." A Greek, Stavros P. Niarchos, owns the new "oil queen of the seas." It will be able to carry 16,500,000 gallons of oil—enough to heat all the homes in a small city for a year.

TIME OUT TO THINK: In Dearborn, Mich., Mayor Orville Hubbard ordered all his department heads to shut themselves up in their offices every morning as soon as they got to work—and do nothing but think for 30 minutes. "If they think enough," said the mayor, "they may have ideas." Two half-hour "think periods" daily have been set aside for President Eisenhower. No one disturbs him at those times. Bernard M. Shanley, Eisenhower's special counsel, told a student group recently: "The President's main complaint is that we don't give him enough time to think."

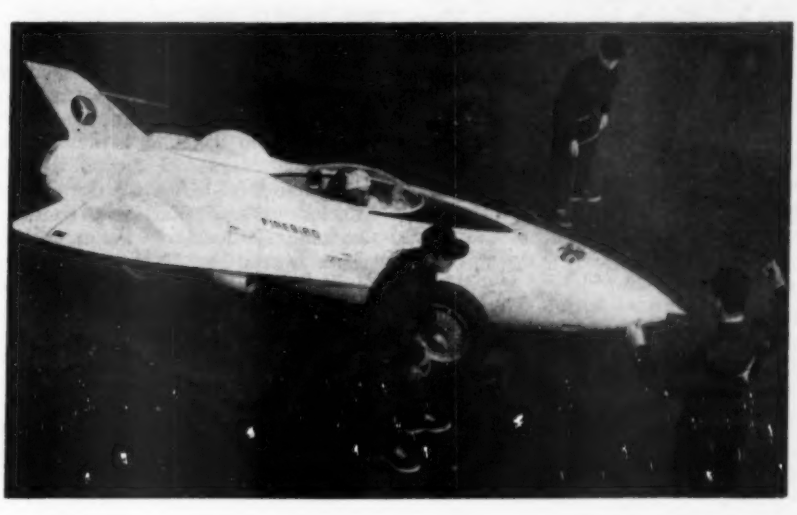
WORLD WEEK SALUTES: Terence Patrick Brennan, 25, new boss of Notre Dame football—the youngest head coach of any recent big-time college team.

KEEP YOUR EYES ON:
NEW ATOMIC MIRACLES—They're happening all the time! You'll read about some in this week's unit on atomic energy. In addition, here are a few brand-new uses of the atom that are worth watching:
(1) NEW ELEMENTS: Chemistry textbooks used to say there were 92 elements. In the past few years, seven more have been created artificially in the "atomic furnace." Last week the latest, Element No. 99, was announced. It is tentatively named "ekaholmium." It's the heaviest of all elements. It is radioactive, and in a few minutes changes into Element No. 97.
(2) ATOMIC HEATING: One of the most troublesome "by-products" of the atomic furnace is heat—terrific heat. Part of a river is routed through the Hanford, Wash., atomic plant to keep the nuclear reactors cool. Now the Atomic Energy Commission plans to harness some of that heat to warm 20 of its buildings at Hanford. That will save the taxpayers the cost of enough fuel oil to heat 1,500 homes.
(3) POWERFUL GOLD: A pinch of radioactive gold adds 10 per cent to a jet engine's power.
(4) SNOW JOB: Every winter crews of ski-shod "snow-measurers" toil up the Far Western mountains. Their job is to find how much snow has fallen. This indicates how much water there will be for irrigation and power (and maybe floods) when spring melts the mountain drifts. This winter the California Cooperative Snow Surveys is measuring snow the easy way—by listening to a radio receiver at the foot of the mountain. Last summer, at the 10,000 foot mark, radioactive cobalt was buried in the ground beneath a Geiger counter on a pole 15 feet above ground. A radio transmitter turns itself on for about three hours a day and broadcasts the clicks of the Geiger counter as it receives the radioactive rays from the cobalt. Water slows up the rays. So, by listening to the speed of the clicks, survey crews measure water content of the snow.
(5) SHADES IN STONES: Blue diamonds are worth more than white ones. Jewelers are worried because British scientists have learned how to turn diamonds any color they want by means of atomic rays.

ENDQUOTE: Here's the message that David Sarnoff of RCA tapped out, in the first public use of electricity from the atomic battery *(see page 8)*: "Atoms for peace—man is still the greatest miracle and the greatest problem on earth."

LANDLUBBER JET →

Does this look like a jet plane or maybe a rocket? No wonder! It's the first American-built jet-powered automobile. General Motors is testing this 200-mile-an-hour "land plane" on the desert near Phoenix, Ariz. The trailing edges of the wings are movable brake flaps that help stop the car. The sleek fiberglas body is only 4½ feet high. GM says the new auto is not intended for highway use, but for experimenting with the gas turbine in autos. The XP-21 Firebird, as the car is called, burns kerosene instead of gasoline. This produces gases that turn a turbine, providing power for the rear wheels. Is this a pre-view of what your "car of the future" will look like?



Which Way to German Unity?

East meets West (in Berlin, Germany)—but they don't agree on what to do about Germany.

Two very different plans for the future of divided Germany were laid before the conference of the "Big Four" foreign ministers in Berlin.

Those attending are: U. S. Secretary of State John Foster Dulles, Foreign Secretary Anthony Eden of Britain, Foreign Minister Georges Bidault of France, and Soviet Foreign Minister Vyacheslav Molotov.

WEST'S GERMAN PLAN

Anthony Eden presented the West's plan for Germany:

1. Free elections throughout Germany—both in West Germany and in Communist East Germany—to choose a national assembly.
2. Drafting of a constitution by this assembly.
3. Formation of a government for united Germany, based on this constitution.
4. Signing of a peace treaty with this all-German government.

RUSSIA'S GERMAN PLAN

Molotov proposed starting at the other end. He urged writing a peace treaty as a first step. His plan is for the Big Four to call in representatives of East and West Germany to draw up a treaty. (This would apparently put Communist East Germany on an equal footing with West Germany, which is much larger.) Then a peace conference of the nations that fought Germany in World War II would be held not later than October, 1954.

The treaty would reunite Germany within the boundaries set up at the Potsdam Conference of 1945. At Potsdam, the eastern part of prewar Germany was put under Russian and Polish control. The newly created German nation would be a neutral country forbidden to join any military alliance like the European Defense Community ("European Army").

The West's reaction was that the proposal was "disappointing" and "an old refrain."

In the meantime, Dulles and Molotov met to discuss President Eisenhower's atoms-for-peace plan *(see news pages, Jan. 6 issue)*.

Spain Wants Gibraltar

Spanish students hurled rocks at police—and all because of one big rock: Gibraltar.

Gibraltar is a 1,400-foot-high mass of limestone at the southern tip of the Spanish peninsula. The British seized Gibraltar from Spain in 1704 and turned the rock into a mighty fortress. It bristles with guns and is honeycombed with passageways. Beside the Rock is a deep bay which is one of Britain's chief naval bases.

The Falange is the only political party allowed in Spain. It has often raised the cry, "Gibraltar is Spanish." But the British have shown no signs of giving up the Rock. It is too valuable in guarding the "British life-line" shipping route through the Mediterranean.

Queen Elizabeth II of Britain plans to visit Gibraltar next May during her round-the-world trip. This news touched off a wave of protests throughout Spain. In Madrid, a mob estimated at 10,000 students broke through the police lines and stoned British buildings.

Students accused the police of wounding 30 students, four of them by firearms. The police claimed that several policemen were injured by the students. The Spanish government blamed the rioting on "political enemies."

Reds Take Away the 21

Twenty-one G. I.'s who prefer communism to democracy disappeared behind the Iron Curtain.

The men were former U. S. soldiers captured by the Communists in Korea. They refused to return home with other released war prisoners.

Last month Indian neutral guards ended their watch over the remaining war prisoners. The U. N. accepted about 22,000 anti-Communist Chinese and North Koreans and freed them *(see last week's news pages)*.

The Communists claimed that releasing prisoners in advance of a Korean peace conference violated the Korean truce. For this reason, the Reds at first refused to accept the 21 Americans, 325 South Koreans, and one Briton who wished to stay under communism. Later the Communists moved the men (still prisoners) into North Korea. They were expected to be taken soon into Red China.

Other recent Korean developments were:

1. **SOUTH KOREA TREATY:** By

IKE PAINTS ABE

HERE'S THE WAY one President looks to another! President Eisenhower—like thousands of Americans—has taken up painting for relaxation. Last July he began sketching a photograph of Lincoln, taken on November 15, 1863 (four days before the Gettysburg Address was delivered) by Alexander Gardner. Gardner was a former employee of Matthew Brady, the famous Civil War photographer. When the painting *(photo at right)* was finished, the President hung it in the White House living quarters. He had it photographed and used it for his 1953 Christmas cards. Note the President's signature in the lower right corner. February 12 is the 145th anniversary of Lincoln's birth.

INP photo

a vote of 81 to 6, the U. S. Senate ratified a mutual security treaty with the Republic of Korea (South Korea). The U. S. and South Korea pledge to act together if either nation is attacked. But our Government does not have to aid South Korea if its president, Syngman Rhee, carries out his threat to invade North Korea. We have similar mutual defense treaties with the Philippines, Australia, and New Zealand.

2. U. N. ASSEMBLY: The proposed U. N. Assembly meeting February 9 on the Korea question will not take place *(see last week's news pages)*. Only 22 of the 60 member nations agreed to the session, and a minimum of 31 acceptances was required. The U. S. and most of our allies opposed the meeting. Our Government feels such a session might interfere with our negotiations with the Communists for holding a Korean peace conference.

Scholastic's "U. N."

Our offices looked like a "Teen-Age U. N." January 30.

Scholastic Magazines' staff was host at a luncheon for 32 young people, aged 16 to 20, from all over the free world. They are in the U. S. as delegates to the 1954 Herald Tribune Forum for High Schools. They spend 12 weeks living in the homes of American high school students and going to school with their hosts. Their visit closes March 27, when the Forum will be held in the United Nations Assembly hall.

Each delegate comes from a different country—from Latin America, Europe, Africa, the Middle East, and from east and southeast Asia.

The March 24 issue of *World Week* will carry an article on the Forum delegates' opinions of America and U. S. teen-agers.

U. S. "Coffee Nerves"

Americans search for the cause, as coffee prices go up, up, up.

One tireless Detroiter began the task of telephoning as many as possible of the city's nearly 2,000,000 population, urging them not to buy coffee. Many housewives were using their coffee grounds twice. A Philadelphia hotel offered each patron of its restaurant a nickel for NOT ordering coffee. One restaurant chain displayed signs asking customers to drink tea. Some eating places were

INP photo

POLAR WATCHMEN: Two Eskimo scout battalions of the Alaskan National Guard help man our "first line of defense" against attack on Alaska. These scouts constantly watch for enemy planes, and report by short-wave radio to the Air Force. In photo, an Eskimo scout leaves for a two-week training encampment after arranging with a friend *(right)* to look after his property.

charging 15 cents a cup for the brew. Grocery stores reported brisk sales of tea—some double the normal demand. Two Governmental investigations were begun.

With such frenzied activity did Americans—the world's biggest consumers of coffee—react to the rising price of their favorite drink. Ten years ago the housewife paid about 30 cents for a pound of coffee. Today she pays more than $1.00 a pound and may soon be paying $1.25.

What's Behind It: Frosts, droughts, and insects greatly reduced the 1953 crop in Brazil, where the U. S. gets more than half its coffee. The Federal Trade Commission and the Senate Banking Committee launched investigations to see whether speculators were also partly to blame.

THE NEWS IN BRIEF

AMINTORE FANFANI lasted less than two weeks as Italy's premier *(see last week's news pages)*. Italy's Chamber of Deputies refused by 303 to 260 to give him the vote of confidence necessary for a premier to begin his duties. Italy has lacked a stable government since the national elections last summer. *(Unit on Italy in October 14, 1953, issue.)*

PAGES OF CONGRESS have always been boys. But a Rochester, N. Y., girl—Margaret S. Alden, 16, a high school sophomore—is trying to end that "male monopoly." She has applied to her Congressman, Representative Kenneth Keating, for appointment as a page. Interviewed on the John Daly ABC television program recently, Margaret said she wants the job because of her interest in politics and government. Congressman Keating referred her application to the House Committee on Personnel. He said the committee would study the question whether pages "should be all boys or whether it might be that half or a certain number of them would be girls."

THE RUSSIANS have a new flag. A light blue vertical stripe has been added on the left side. The rest of the flag is about the same as it has been ever since the Communists seized power in Russia in 1917—a hammer and sickle (representing farmers and workers) and a five-pointed star on a red field. The red represents world revolution. Why the change? The Soviet delegation to the U. N. said they knew nothing about it. "Haven't heard of the change," they told us by phone.

Economic Health: Good

The President finds that the nation's economic health is good.

This optimistic note was sounded throughout his economic message to Congress. It was the third and last of the major messages which the President annually sends to Congress and the nation in January. The other two are the state-of-the-union message *(see news pages Jan. 20 issue)* and the budget message *(see news pages Feb. 3 issue)*. The economic message was based on the report of the President's Council of Economic Advisors, headed by Dr. Arthur F. Burns, a former professor at Columbia University in New York City.

"Our economy today is marvelously prosperous by any historical standard," President Eisenhower declared. He pointed out these encouraging factors: (1) Spending by manufacturers for new plants and equipment was expected to be about the same as last year's record high. (2) Housing construction would be about the same as last year. (3) The cost of raw materials had decreased; this, the President said, would result in lower prices and thus lead to a greater demand for goods. (Between mid-November and mid-December the Department of Labor's

cost-of-living index dropped 0.1 per cent—the second consecutive monthly drop.) (4) Wages are high. (5) Although Federal spending is being reduced, state and local expenditures for schools, highways, hospitals, etc., is expected to increase. (6) Export demand for U. S. crops, which slumped last year, is expected to pick up.

The President noted that there had been a "minor" slump in business in the last few months but he said it would soon be over. If a depression should develop, President Eisenhower said he would increase Federal spending to fight it.

But Mr. Eisenhower made it clear that the Federal government would try to confine itself to creating a healthy economic atmosphere in which the free enterprise system could work out its own problems. "The Government can greatly help to maintain prosperity," he declared, "but . . . no government can of itself create real and lasting prosperity."

What's Behind It: Administration leaders are watching the economic barometers for signs of a downturn in business activity. Two trends being closely observed are: (1) In January, unemployment increased by 510,000, to a total of 2,360,000—the largest figure in three years. (2) During December, industrial production (total output of the nation's mines and factories) dropped 4 per cent below the level for December, 1952—the fifth straight month that production had declined.

Quick Quiz ON THE NEWS

Based on recent developments reported in your Scholastic Magazine

If you "know the news," you can complete these "headlines."

1. "RCA Unveils New Battery to Get Power From ....."
2. "Senate Ratifies Mutual Defense Treaty with Young Asian Nation, ..."
3. "Fanfani Defeat Renews Government Crisis in ....."
4. "West, at Big Four Parley, Urges Free Elections to Reunite ....."
5. "Senate Considers Proposal to Amend Constitution to Limit President's Power to Make ....."
6. "Spanish Students Demand that Britain Give Back the Rock of ....."

Answers in Teacher Edition.

RCA photos

David Sarnoff, chairman of RCA board of directors, taps out message with power from atomic battery *(in lead container inside plastic case)*. The "heart" of the atomic battery is shown, magnified, at upper left. The end of the cylinder is coated with a radioactive material. Rays bombard the transistor-like wafer at left. This causes electrons to be released, thus producing an electric current.

New Way to Use the Atom for Power

Scientists have found a new way to get power from the atom: the "atomic battery."

In the Radio Corporation of America's New York offices, board chairman David Sarnoff—a telegrapher in his youth—sat down to a telegraph key. The tap of the key was audible in an earphone which he held in his left hand *(see photo)*. The sound was transmitted by the first electricity produced directly from atomic energy.

The atomic submarine *Nautilus (see last week's news pages)* also uses atomic energy to make electricity—but in an indirect way. The *Nautilus* power plant consists of an "atomic furnace." Splitting of the atoms in the furnace creates great heat. This heat is led off to turn water into steam, and the steam provides the power to propel the submarine. But in the new atomic battery a usable electric current is formed directly from an atomic reaction *(see photo caption)*.

What's Behind It: RCA officials cautioned that the battery is still experimental. It produces only one-millionth of a watt of power. Much research remains to be done. If successful, RCA anticipates the first use of the battery would be in miniature devices such as portable and pocket-size radio receivers and hearing aids. Later they hope it can be developed as a self-contained power unit for small electrical appliances like toasters. Staggering problems remain, however, before power of an "atomic battery" could be used to drive an automobile or power a washing machine. If these problems can be solved, some scientists feel the power plant of the future would not need boilers, generators, or turbines. In that case, General Sarnoff's brief message might be as significant as was the action of Michael Faraday when he first rotated a copper disc between the ends of a magnet to produce an electric current.

ATOMIC ENERGY UNIT

The ATOMIC ARMS Race

CAN WE STOP IT?

THE U. S. and Russia are running a race—a deadly serious race. Each is striving to turn out the biggest and most powerful arsenal of atomic weapons. This is the atomic arms race—a race that overshadows the future of every person in the world today.

What is an atom? It's an extremely small particle of matter—the tiny building block of which you and everything in the universe are made. Atoms are so tiny that billions of them are in the dot that marks the end of this sentence.

The center of the atom is called the *nucleus*. Scientists have long known that the nucleus is held together by a mighty force. In 1939 they found that the splitting of uranium atoms releases some of this terrific force as atomic energy.

During World War II a team of scientists from the U. S. and Allied nations discovered a way to harness the energy released by splitting atoms. The first use of this discovery was the atomic bomb. In 1945 a U. S. plane dropped an "A-bomb" on Hiroshima, Japan. The bomb nearly wiped the city off the map. Soon after, Japan surrendered.

THE BARUCH PLAN

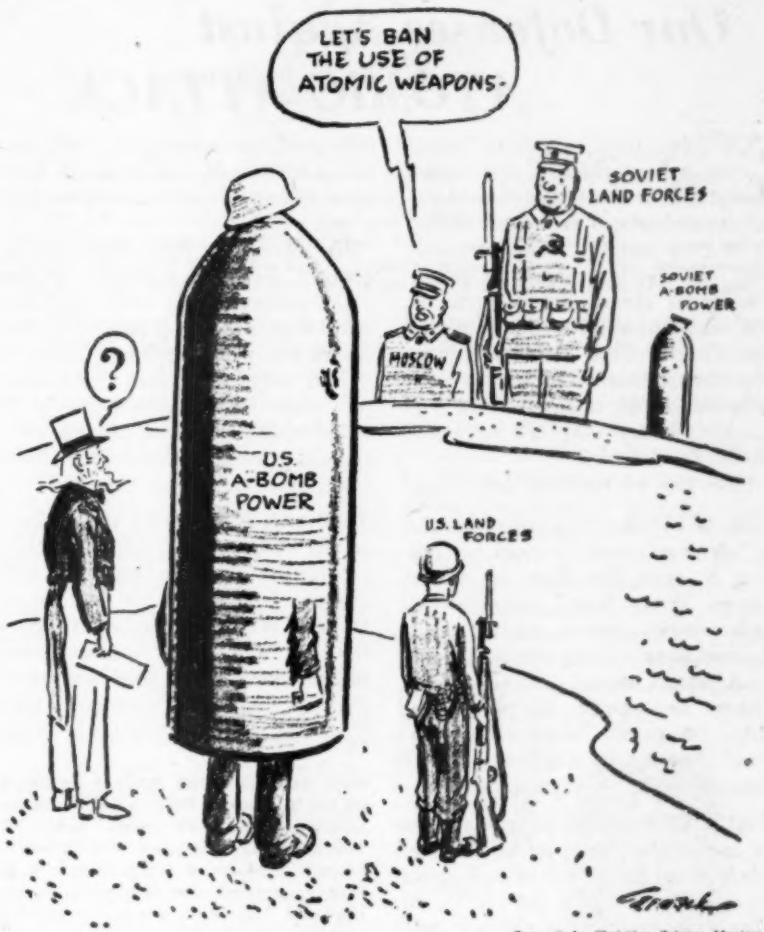
At the end of World War II, the U. S. was the only nation with the production "know-how" to use atomic energy. We offered to share this knowledge with all nations. In return, we insisted that no nation ever again produce or use an atomic weapon. To make sure of this, Bernard Baruch (a U. S. delegate to the U. N.) proposed that the U. N. set up an agency for atomic energy. This agency would: (1) control all raw materials, plants, and projects for making atomic energy; (2) produce atomic energy for peaceful uses only; (3) have power to send inspectors inside any nation. If the inspectors found a nation making atomic weapons, the U. N. would put a stop to it.

The U. N. General Assembly approved the Baruch Plan. But it never went into effect, because Russia wouldn't agree to it. Said Russia to the U. S.: "Destroy your atom bombs and sign a pledge not to use atomic weapons. Then we'll see about setting up U. N. controls on atomic energy." The U. S. reply was: "If we gave up our A-bombs, you—with your huge army—could overrun Western Europe and other free nations. And meanwhile, what's to stop you from learning how to build A-bombs to use against us some time in the future?" (*See cartoon.*)

By 1949 Russia had learned how to build A-bombs. Scientific instruments picked up evidence of an atomic explosion inside Russia. In 1950 the U. S. proposed to the U. N. that all nations disarm, step by step. We urged cutting down on all types of armed strength, including armies as well as atomic weapons. The Communists turned down this plan, too.

How does the atomic arms race stand?

As of now, we're ahead. In secret underground caverns, the U. S. is piling up atomic explosives. The exact amount is a military secret. It is estimated to be a number in three figures. We've invented A-bombs small enough to be carried by high-speed planes; A-shells which can be fired by artillery against enemy



Carmack in Christian Science Monitor

Where would that leave Uncle Sam?

troops; and a new super-atomic bomb—the hydrogen or "H-bomb." The H-bomb is said to be about 50 times more powerful than our latest A-bombs.

Our ally, Britain, has joined in the arms race. Britain set off its first atomic explosion in 1952. Britain is working without U. S. help. The U. S. Atomic Energy Act forbids the giving of information on atomic weapons to other nations.

RED ATOMS

What about the other side?

The Russians are moving fast. They're estimated to have a pile of A-bombs numbering in two figures. Russia, too, is perfecting other types of atomic weapons. Last summer the U. S. Atomic Energy Commission reported that Russia had touched off a test hydrogen bomb. Russia's ally, Red China, has started atomic research.

Just before Christmas the U. S. made a new move toward control of the atom. In a speech before the U. N., President Eisenhower proposed that the world's nations work together to develop peaceful use of atomic energy. (*See WW, Jan. 6, p. 6.*) He called on each nation possessing atomic material to contribute some to a "U. N. atom bank." The "bank" would develop atomic energy for peaceful purposes.

"If Russia and the U. S. can agree on a way to use the atom for peace," said the President in effect, "they may some day be able to agree on a way to prevent its use in war." Russia accepted the President's invitation to begin private talks on the plan. The next step, if Russia is willing, might be a conference of all nations interested in atomic energy.

Setting up the President's plan won't be easy—even if Russia cooperates. Congress would have to change the law which forbids the U. S. to give foreign countries atomic materials or information on atomic power production.

There are other problems: (1) where to locate the "world atom bank"; (2) how to protect it from "bank-robbers" trying to steal atomic material for use as weapons; (3) how to decide which countries would get atomic energy produced by the U. N. bank.

EUROPE'S ATOM BANK

The world already has the beginnings of an "international atom bank." It's a research center now being built in Switzerland, sponsored by 12 nations of free Europe. The center will produce atomic energy for peaceful use. One U. S. Senator has suggested that, if Russia won't cooperate in a U. N. atomic agency, the U. S. should go ahead without Russia and join free Europe's "atom bank."

Unusual words in this issue are pronounced and defined on page 37.

Our Defenses Against ATOMIC ATTACK

FOR more than a century, broad oceans have shielded our nation from attack. But in today's "Air Age," the ocean barriers no longer shelter us. As President Eisenhower recently said: "The Soviets now have the capability of atomic attack upon us, and such capability will increase." The Federal Civil Defense Administration estimates that just 100 A-bombs could destroy a third of U. S. industry and kill or injure 10,000,000 Americans.

How are we meeting this threat?

THE WATCH—We've placed a ring of "electronic eyes" around our borders to scan the skies for enemy planes. These "eyes" are automatic radar devices. Some are set up in lookout towers along our coasts, and in Alaska, Canada, and Greenland. Others are carried by planes and ships on patrol. Since radar can't "see" low-flying attackers, 316,000 Americans act as skywatchers.

THE DEFENSE—If radar operators or skywatchers spot an unidentified plane, they flash word of its location to our armed forces. Jet interceptor planes zoom into the sky and hunt down the intruder. An attacker that gets past our interceptors will run into a barrage of artillery shells from giant guns and guided missiles (*see photo, right*).

But are our defenses strong enough? Recently a Senator quoted a Government study which said that our defenses can stop only about *two* out of every 10 attacking planes.

Last month President Eisenhower indicated that in 1954-55 the U. S. will double the amount of money it is spending for new interceptor planes and radar warning stations.

THE COUNTER-ATTACK—Meanwhile, we are continuing to build up our terrific power to "hit back" with atomic explosives if the U. S. is attacked. Would-be aggressors know that our long-range bombers could smash their cities and industries. Perhaps that fact will convince them that they should leave us in peace.

NEW HUNTER-KILLER ROCKET developed by the U. S. is the *Nike*—a guided missile which automatically tracks down, hits and blows up airplanes. Photo shows a battery of *Nikes* at White Sands, N. M., proving ground. One is already roaring skyward. Two more are set to go. *Nike* batteries are being installed to guard U. S. cities.—*Wide World photo.*

Mr. Atom's "Super-Energy"

What it can do to help mankind

MR. ATOM is a fearful destroyer when he "blows his top." In a single explosive outburst, he killed 60,000 persons, injured 100,000, and left 200,000 homeless. This happened when an atomic bomb was dropped on Hiroshima, Japan, during World War II.

But if you keep him calm, Mr. Atom can be a friend to man. He can provide heat and power. He helps guard mankind from disease, starvation, and poverty. He's already doing these jobs on a small scale in a few countries.

Just before Christmas, President Eisenhower proposed that the world's nations form a team to put Mr. Atom to work to help *all* countries (*see p. 10*). What could the people of the world expect if the President's plan went through?

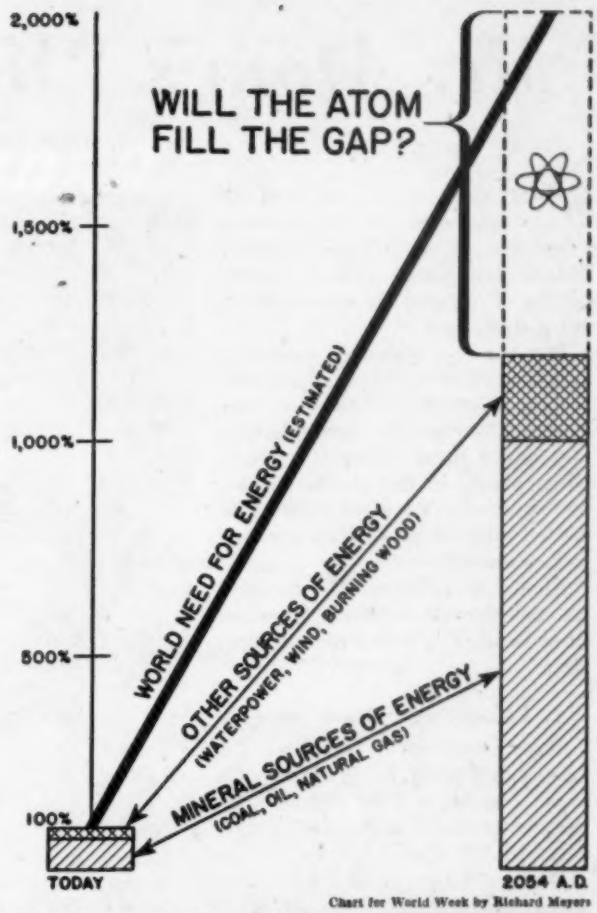


Chart for World Week by Richard Meyers

Will the world run short of energy in the next 100 years? Palmer Putnam, an engineer engaged by the Atomic Energy Commission to study power needs, reports: (1) The world's population may grow from 2.4 billion to 7 billion by 2050 A. D.; (2) This huge population will need about 20 times as much energy as is used today (see energy need line, above); (3) present sources won't fill this future need. Science, says Putnam, must turn the atom into a big source of energy for man.

1. A-WATTS FOR POWER

In 1942 a U. S. research team invented the world's first device to produce atomic energy. It's the *nuclear reactor*—a sort of furnace which uses uranium as fuel. Inside the furnace, atoms of uranium are literally torn apart, creating terrific heat. (The same type of reaction, greatly speeded up, produces the explosion of the A-bomb.)

Scientists said: "Suppose you could use the heat to boil water into steam. Set the energy of the steam to spinning a turbine. Harness the turbine to a generator. Then you'd have an atomic power plant that could produce electricity!"

Three years ago U. S. scientists did just that. They produced the world's first electricity from atomic power. It was generated by an experimental reactor at the Atomic Energy Commission laboratory in Arco, Idaho. Later, Britain turned out atomic electricity in a similar manner.

Now both nations have decided to build atomic power plants to produce electricity for use in homes and factories. Britain has begun building its plant and hopes to finish it next year. We've started drafting plans for ours (*W.W., Feb. 3, p. 4*). We expect to complete it in about three years. Its location hasn't been decided.

In the U. S., electricity is cheap. Atomic electricity will surely cost more than our present electricity—at least at the start. But in Britain and many other nations, electricity costs more than it does here. The British hope to produce atomic electricity soon at less than they now pay for power.

2. "PIGGY-BACK" ON THE ATOM

This year—if all goes well—an atomic engine will move a vehicle for the first time in history. Our Government has launched an atomic-powered submarine—the *Nautilus* (*see last week's news pages*). It's scheduled to go into operation later this year. Our admirals expect that the "A-sub" will be able to cruise for weeks, perhaps months, without refueling or even coming to the surface.

What next? The AEC is working on plans for an atomic airplane and an atomic warship. Norwegian scientists are designing an atomic engine for use in merchant ships.

The cost of building atomic power plants and engines is high. Only wealthier nations can afford them at present. But if President Eisenhower's plan is adopted (*see p. 10*), other nations could draw on a "U. N. bank" of atomic materials to help them develop atomic power, too. (*Turn page for more on peaceful uses of atomic energy.*)

ATOMIC ENERGY UNIT

Mr. Atom's "Magic Rays"

Meet your new friend—the radioisotope

SHAKE the grate of a coal furnace, and you bring down a shower of ashes. The atomic furnace produces "ashes," too. These wastes are dangerous. They give off rays that can kill a man.

But the rays—properly controlled and in small amounts—can be useful. In fact, scientists find them so valuable that they use the atomic furnace to produce them. Many substances, when placed in the atomic furnace and exposed to the atom-splitting reaction, give off rays. They are said to be *radioactive*.

Atoms of radioactive substances are called *radioisotopes*. Here are three kinds of jobs that radioisotopes do:

1. Life-giving "death rays"

The "magic rays" from radioisotopes can destroy living cells in the body. Too big a dose can be fatal. But doctors are learning to use small doses to kill diseased cells.

Doctors have already had some success in treating cancer and other ailments with the rays. They use a "ray machine" loaded with radioactive cobalt *(radiocobalt)*. The machine focuses the radiocobalt's rays on a nest of cancer cells infesting a patient's body. The patient feels nothing—but the rays kill many of the cancer cells. Using the rays, doctors have been able to treat cancers located too deeply inside the body for surgery.

(On page 29 you can read about a girl whose job is seeking new ways to use the atom in medicine.)

2. Atomic "tracer tags"

A radioisotope is something like a tiny radio station. It gives off "signals" (its rays) which can be picked up by a "receiving set" (a scientific instrument called the Geiger counter). When the rays strike the Geiger counter, the instrument clicks or a needle moves on its dial.

Here are three of the many ways man uses radioisotopes as "tracers."

—A medical researcher wants to find out where salt goes in the human body. He mixes a harmless pinch of *radiosodium* with ordinary salt (sodium chloride). He injects the salt into a subject's body. His Geiger counter "follows the clicks" of the radioactive salt as it travels through blood stream and body tissues. Result: new knowledge of the behavior of salt inside the human body.

—A scientist wants to know whether a phosphorus fertilizer helps tobacco plants. He mixes *radiophosphorus* with the fertilizer and spreads it on some test plants. As the plants grow, he "listens" with a Geiger counter for the presence of *radiophosphorus*. He hears no clicks. Result: knowledge that tobacco plants don't absorb phosphorus fertilizer. Farmers save the cost of tons of such fertilizer which they had been using.

—An engineer is running two types of oil through a pipeline, one after the other. He wants to switch each type into a separate tank at a certain point in the line. He drops *radioantimony* into the last portion of the first type of oil as it runs into the line. He stands with a Geiger counter at the switch-point. The counter picks up the "rays" of the *radioantimony* as it flows past. Result: the engineer knows it's time to open the valve to the next tank, for the second batch of oil.

U. S. Department of Agriculture photo

HARNESSING THE ATOM to produce more food: **Radioactive phosphorus is being sifted into fertilizer. Masks protect men from atomic rays. The man at right holds an instrument containing a Geiger counter. Atomic radiation makes a clicking sound in the instrument. Thus he can "hear" where the fertilizer is going in the plant, and in what amounts. This information helps scientists develop types of fertilizer and methods of use that will produce larger yields of food.**

3. Food preservers

The rays of radioisotopes wipe out the bacteria that cause food to spoil. If you seal food in airtight containers and pass it through atomic rays, it will keep indefinitely, tests have shown. Scientists are running experiments to find out whether eating such food is harmful. If the process is found safe, you may be able to store fresh vegetables, milk, and meat on your pantry shelf instead of in the refrigerator!

The Atomic Energy Commission supplies radioisotopes to users in the U. S. and dozens of foreign lands. The proposed "U. N. atom bank" *(see p. 10)* could make more radioisotopes available to the people of the world.

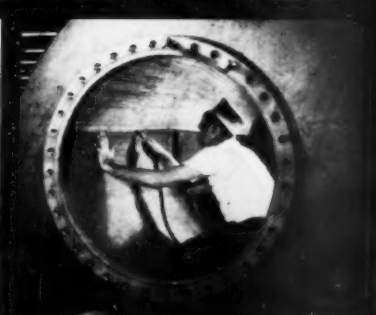
General Electric

HIGHLIGHTS of 1953

A Report to Young America on Electrical and Allied Developments

Research p. 14

Muscle Power p. 3



Better Living p. 6

For Our Defense p. 9

Our New Servants p. 12

GENERAL ELECTRIC

HIGHLIGHTS of 1953

Rising as high as an 18-story building, this giant steel ball at West Milton, N. Y., will house the prototype power plant for an atomic submarine. (See back cover.) Part of an elaborate plan to prevent radiation from escaping in case of mishap, sphere will double as a testing tank. Power plant will be enclosed in an actual section of submarine hull. To simulate underwater operating conditions, the hull may be submerged by partially filling sphere with water.

LAST October 15 we celebrated 75 years of electrical progress, marking that day in 1878 when a small company, headed by Thomas Edison, was founded. Its sole purpose in being was the invention of a practical electric lamp.

With Edison's invention of a light just a year and a week later, on October 21, 1879, electricity came into the lives of our fathers. Slowly, that is; for, three years after its invention, Edison had only 59 customers for his lamp.

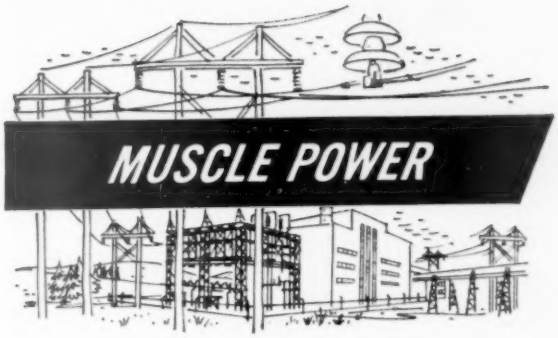
In 1892, the beginning spark flamed into notable progress with the combining of the Edison General Electric and Thomson-Houston companies to form the General Electric Company.

Today, the electrical manufacturing industry supplies four per cent of the Gross National Product. By 1961, it will be called on to supply an estimated 5.5 to 6 per cent. In fact, the electrical industry must be prepared to grow more than twice as fast as the rest of the economy.

Highlights of 1953 brings you just a few of the year's developments. But it is tangible evidence of progress, of man's technical daring and foresight.

Many of the marvelous things to come will grow and bloom in your working lifetime. Today there are more opportunities for you than there were for your fathers, and these opportunities will increase in growing proportion.

The fun of the challenge is yours: to base yourself in the fundamental studies and to gear yourself up, in your thinking, to build your future in line with the complex but fascinating civilization that lies ahead.



for Industry, Utilities, and Transportation

FOR every 100 people in the world, only six are inside the borders of the U.S.A.; yet we produce 40 per cent of the world's goods. How?

Obviously, the answer is not in numbers of people. It is in machines. Mechanization and electrification multiply our manpower many times over.

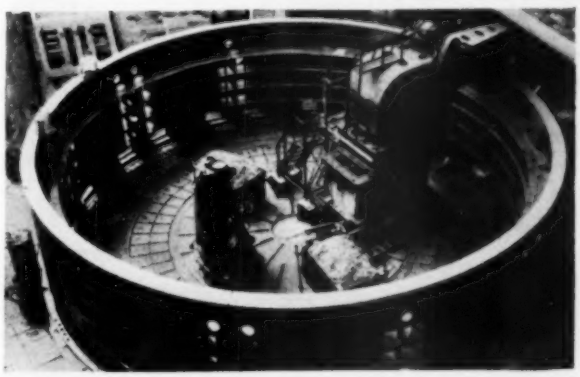
Take a one-horsepower electric motor, for instance: it can do the work of 22 strong men, and it doesn't tire or take time out for food.

Or, consider the great generator which hums steadily in the neighborhood powerhouse: it can do the work of a million men.

Today, the American worker has about 7½ horsepower at his fingertips—the power of 165 big men.

Between January of 1953 and 1961, our population will have increased by some 20 million additional Americans. To feed them, clothe them, transport them, and supply them with the necessities and luxuries of our way of life, we must build more—and better—machine muscle power.

A man's eye view of the hardest metal made by man. This new masonry drill is tipped with tungsten carbide, produced by G.E.'s Carboloy Department. This super-tough metal has revolutionized the stone-cutting and machine-tool industries with its long life and cutting speed.



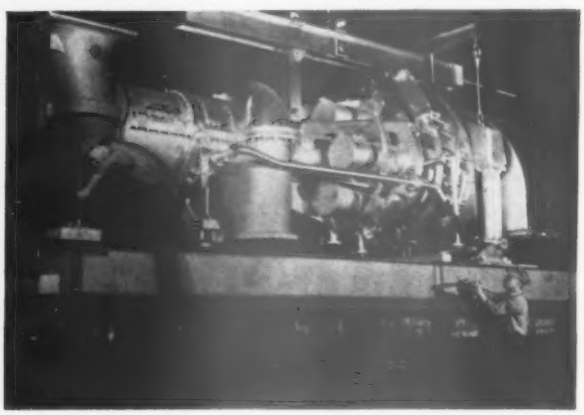
Huge stator frame is cut to size in the shop. It will house the rotor of a hydraulic turbine-driven generator. Twelve such G-E generators at the Columbia River's McNary Dam will produce electric power for area homes and industry. Each generator weighs 2,500,000 pounds.

This propeller-toothed monster is the world's largest hydraulic pipeline dredge. Its job is deepening the St. Lawrence River's Beauharnois canal to 35 feet to provide more water for Quebec's Beauharnois powerhouse. The dredge, powered by G-E apparatus, can suck up 1500-pound boulders. When completed, Beauharnois will be the world's largest single-site hydroelectric plant.

Circuit breakers maintain order, help prevent breakdowns in electric power systems. World's largest (25 million kva), shown here, is adequate by today's standards, but the future will call for more advanced designs. Today our country uses about 400 billion kilowatt hours annually and will probably double this in 10 years.

Age-old labor methods help build a modern steam plant in India. $15,000,000 worth of G-E materials and services have been supplied to the Bokaro steam power station, part of a project to harness the Damodar River, near Calcutta. Completed project will control floods, irrigate farm land, give India much-needed power.

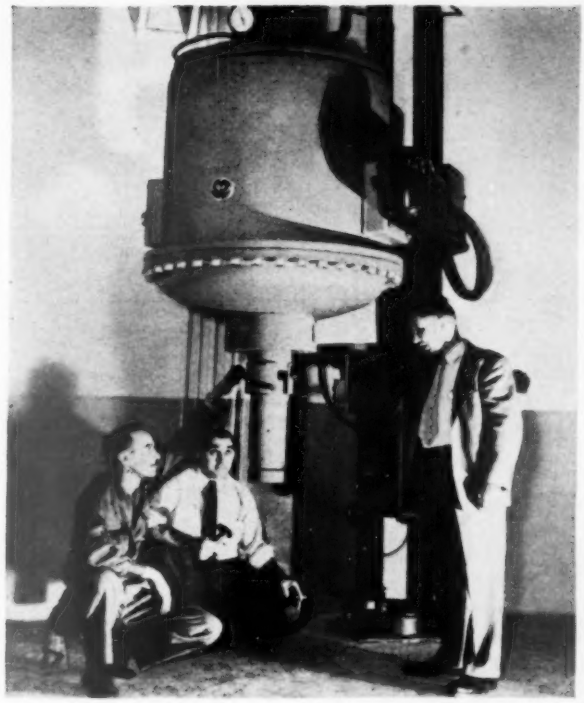
This odd-looking "bird" is a new type pre-formed core for small power transformers. Made of grain-oriented, cold-rolled silicon steel, the core makes possible smaller, lighter transformers, cuts power losses. Cores carry the electromagnetic energy which steps voltage up for long transmission, down for distribution to users.



Keeping natural gas flowing through pipeline from wells in Texas to consumers in California is the task of this 5700-hp G-E gas turbine being readied for shipment to Cornudas, Texas. One of 28 to be installed for the El Paso gas transmission system, the turbine operates economically by using some of gas it pumps for fuel.

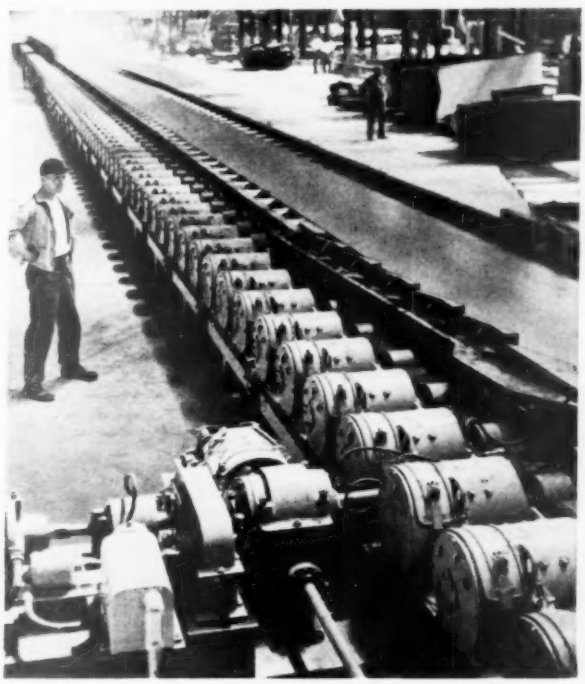
New York Herald Tribune Photo

No coal shovel for the fireman on this run. Pictured here is a new type tank car loaded with propane gas, a fuel being used experimentally by the Union Pacific on a G-E gas turbine locomotive. These turbines, similar to one at left, need almost no water, burn low-cost fuel, are well suited to long hauls through arid country.



Bombarding aircraft valves with x-rays, this 1,000,000-volt G-E industrial x-ray machine looks inside the metal to uncover any defects. Its 360-degree beam allows inspection of several hundred valves at once, speeding production. A new, fully automatic developing and drying machine quickly processes films for study.

Antenna of new radar safety system at Norfolk, Va., airport spots planes 30-60 miles away. Radar screen, developed by G.E., records only moving aircraft, eliminating images of large stationary objects which obstruct small aircraft "pips." Operator locates tall buildings and mountains from map overlay, warns planes away.



More steel for industry. A lineup of 177 G-E three-hp motors moves steel along a runout table at a 20 mph clip at the Pittsburgh Steel Company's new Allenport, Pa., mill. Steel plants use approximately 6 per cent of all power generated in the United States, 12 per cent of all power used by industry.

Largest bulk ore carrier ever built on the Great Lakes is the 690-foot *Ernest T. Weir*, shown here squeezing her 70-foot beam through a tight place. Powered by a 7000-hp G-E steam turbine, the *Weir* can carry a record 20,000 long tons of cargo at 16 miles per hour, has crew's quarters that offer comfort of a modern hotel.

TOWARD BETTER LIVING

Developments for a Fuller Way of Life

STANDARD of living isn't an easy term to define. But what it boils down to is essentially this: it is your level of living comfort as compared to that of the people of, say, Italy or Switzerland or Russia. It is measured in such things as bathtubs and automobiles and refrigerators and bread and education.

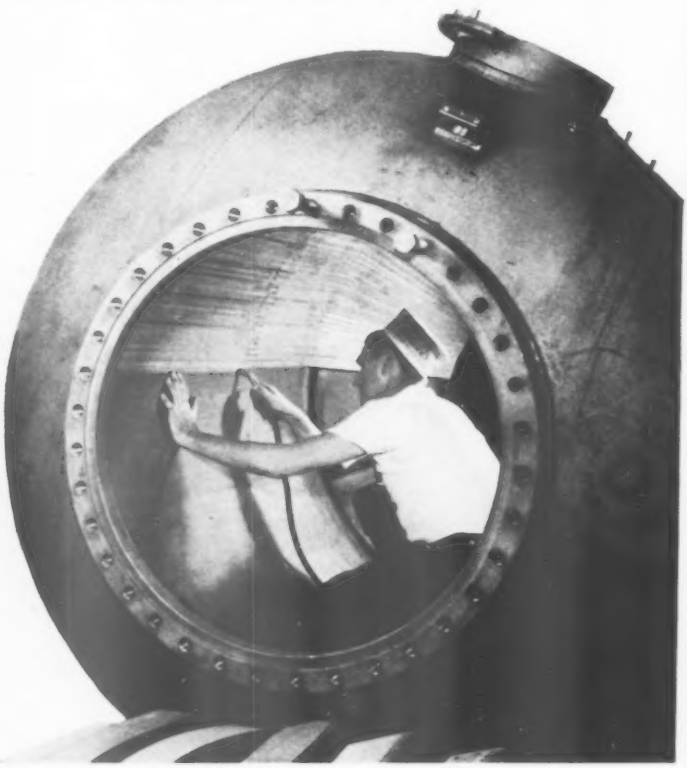
Pictured on these pages are some of the things which combine to give you a standard of living unequalled by any other people on earth.

Powerful x-ray devices for healing the sick; better lighting for classrooms and city thoroughfares; improved television transmission and reception; informative and entertaining films and publications for use in our schools—through such things as these, General Electric people are striving to contribute their bit toward better living.

This is just the beginning, really. Research and engineering are bringing out new things faster than ever to lighten labor and brighten everybody's life.

Better street lighting makes our towns and cities safer, more pleasant places in which to drive, to walk, and to live. Shown here is Oakwood, Ohio's, main street illuminated by fluorescent luminaires which provide virtually glareless lighting. Experts predict that every major city in the United States will have similar installations within ten years.

Home of the Braves. At the Milwaukee Stadium the 1953 Braves tackle an out-of-town opponent under multiple batteries of G-E floodlights. Stadium and playground lighting has greatly increased participation in active and spectator sports, bringing after-work exercise and entertainment to new millions.



Forging a new weapon to fight cancer. An employee of G.E.'s X-Ray Department spot welds silicon steel strips for transformer winding of a 2,000,000-volt x-ray therapy machine. Constant research has greatly reduced size and increased voltage of such machines, brought prices within reach of many more hospitals and institutions.

Amateur and professional photographers will benefit from these tiny light sources—sub-midget flashbulb (bottom) and new repeating flashtube for portable dry battery equipment. Both give improved light control, use less energy, have added safety features.

Nerve center of General Electric's new "one-man" TV station is this control panel, which permits a single technical operator to prepare and broadcast film and network programs. Designed to speed establishment of TV channels recently allotted to 1100 small cities, equipment costs only one-fourth as much as that of the average station.

It's 1000 feet up to the antenna which tops the tower of Reading, Pa.'s, WHUM-TV, the nation's first high-power, ultra-high-frequency television station. Here a G-E electronics engineer assembles waveguide which carries TV signals from transmitter to antenna. Ultra-high-frequency television makes room for more channels, means entertainment for more people.

These miniature vacuum tubes won't bring words and music right into your ear, but they will improve your TV reception. Made of metal and ceramics, their electrical qualities are superior to glass tubes. In fringe areas, TV sets using them will operate as if transmitting stations were 10 times more powerful.

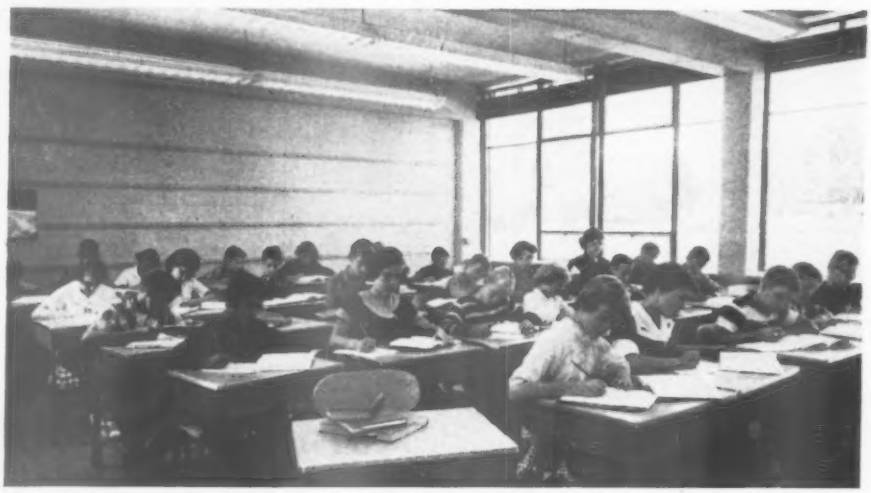
Spot or Flood? Flick the switch on this new flashlight and it throws either a spot or a flood of light. The secret is in the G-E flashlight bulb which contains two filaments like those of an auto headlamp. Spot-flood eliminates twisting to adjust light beam.

Not all the assembly lines at G.E. produce electrical products. Above, at the Company printing plant in Schenectady, N. Y., mailers wrap free educational comics and science booklets which explain workings of things such as you see here in Highlights.

1953 booklet called Why Study Math? It tells why all future bread-winners should have some math training.

Scene from A Is For Atom, 15-minute color movie.

Well-lighted, well-equipped classrooms are better, more pleasant places to study. G-E fluorescent luminaires in this Pittsfield, Mass., high school room have been engineered and installed to give each student the proper amount of light. Colorful G-E Textolite plastics desktops add to room's attractive appearance, reflect light properly to minimize eyestrain. Resistant to ink, chalk, and scratching, Textolite reduces maintenance costs, provides smoother writing surface than wood.



"Fun with French," an experiment in teaching a foreign language to younger children, is part of the educational TV project begun at G.E.'s station WRGB in Schenectady, N. Y., in 1953. Sponsored by civic and educational groups in conjunction with WRGB, the project televises small class groups (left) and relays the instruction via TV to schools throughout the area (right).

FOR AMERICA'S DEFENSE

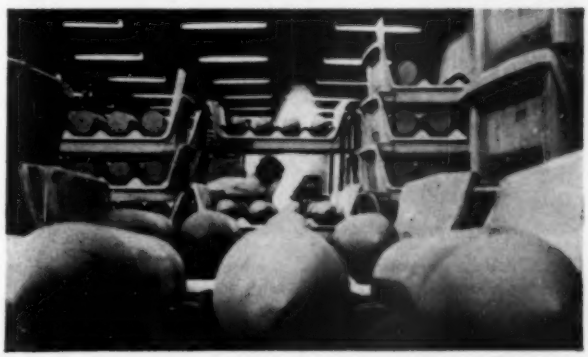
Keeping Our Nation Strong Through Science and Engineering

IN meeting our responsibilities for defending the free world, we of the United States cannot count on sheer mass of manpower and materials, for we are outweighed in these categories. Rather we must depend upon our ability and freedom to think—to outdevelop our adversaries with more advanced machines and methods.

General Electric is proud of the contributions its scientists and engineers have made to our nation's defense over the years: the first supercharger for high-altitude flying, power systems for the first all-electric battleship, the first American tungsten-carbide cutting tools for high-speed armament production, the first American-built jet engine. The Company is the largest single maker of naval propulsion systems and military jet engines. Its scientists have aided in the development of rockets, guided missiles, and atomic energy.

These pages show something of what G.E. has done in the past year to help keep America strong.

One of our most formidable air weapons is this F86H Sabrejet, built by North American and powered by a G-E J-47 turbojet engine. United Nations Sabrejets in Korea scored an impressive 11-1 kill ratio over Russian-built MIG's. F86H is combined fighter-bomber, day fighter.



Anti-tank shell cores, made of tungsten carbide, are stacked prior to final heat treatment at G.E.'s Carboloy Department plant. These cores, molded of the hardest metal made by man, can be used to penetrate the thickest tank armor, even when fired at a 20-degree angle.

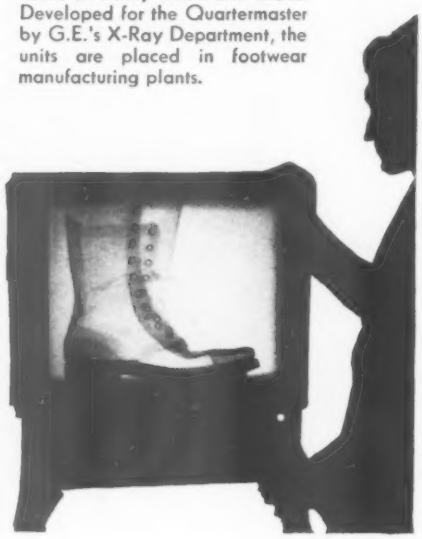
A Navy guncrew swings on-target with a Mark 56 multiple-purpose radar gunfire control system. Produced by G.E.'s Aeronautic and Ordnance Systems Division, the Mark 56 does the "paper work" problems involving speed, distance, angles, that are necessary to train guns. It can be used to control several types of gun.

This 50-ton stator (stationary part of electric motor) will help create supersonic air blasts for aircraft and guided missile research at Moffett Field, California. The stator is for one of four giant wind tunnel motors, which together will generate a maximum of 216,000 hp—greatest load ever concentrated on a single shaft.

Rotor for stator at left being transferred from special flat car to floating derrick at Albany, N. Y., on the first leg of its trip to National Advisory Council for Aeronautics Laboratory at Moffett Field. Rotor was so wide (14 feet) that railroad tracks had to be cleared both ways to Albany from plant at Schenectady.

General Electric engineers check jet engine test tunnel atop New Hampshire's Mt. Washington. Chosen for its consistently bad weather (winds up to 230 mph, temperatures as low as 46 below zero, year-round fog), the mountain is the site of an Air Force project to check jet engines for "let down" performance in critical icing conditions. Building used for testing is literally chained to the 6240-foot peak.

Making life easier for the Infantry. A new fluoroscopic footwear-inspection unit now in use by the Army spots missing or protruding nails and checks for other hidden faults in Army boots and shoes. Developed for the Quartermaster by G.E.'s X-Ray Department, the units are placed in footwear manufacturing plants.

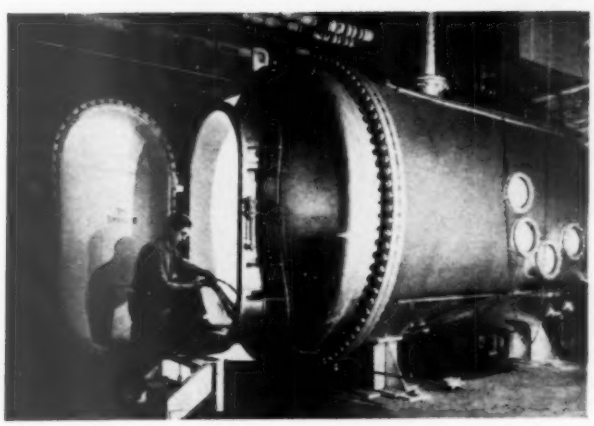


This young man isn't as strong as he looks. He is holding a block of feather-light G-E phenolic foam. Buoyant and fireproof, it is used to fill anti-torpedo blisters on aircraft carriers to prevent listing in case of an enemy hit. Poured into blisters, liquid expands up to 300 times into foam when catalyst is added. Foam is also used as an insulator.

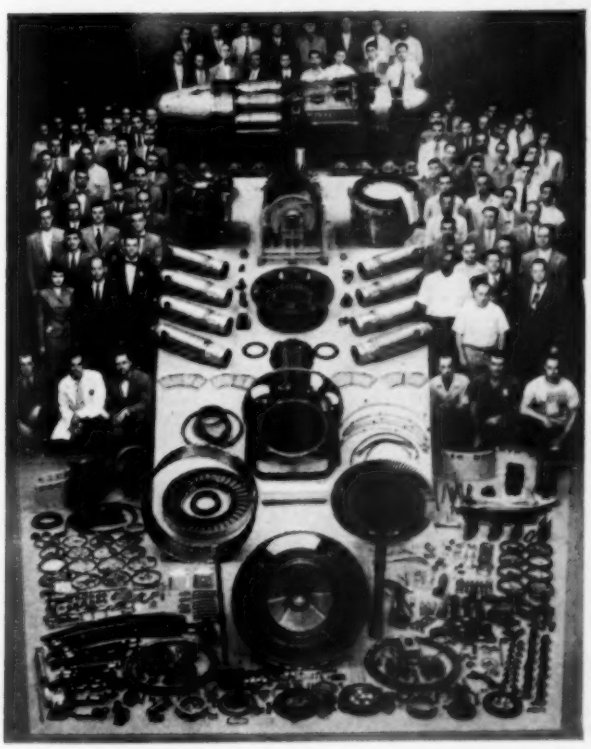
Can you multiply 8,645,392,175 by itself in 10 minutes?* This G-E computer can do it in 4/1000 of a second. Built for the Air Force, it solves complex aircraft design problems that would take a mathematician years. Replaceable circuit turrets (left) make maintenance easy.

*Answer: 74,742,805,859,551,230,625.

Resistant to heat, cold, water, and shock, this new Army compass will steer G.I.s in the right direction anywhere on the globe. G-E silicone rubber lining (right)prevents shock, temperature, moisture damage.



Testing equipment "ten miles up in the sky" without leaving the ground is now possible in this new altitude test chamber. G.E.'s Aircraft Gas Turbine Division uses it primarily for testing efficiency of reheat (afterburner) fuel pumps for jet engines. Chamber can reproduce severest conditions met in actual flight.



The gang's all here—and the parts too. It takes 8854 parts to make a J-47 jet engine. And it takes 87 men and women from the Air Force and G.E. to supervise and produce each engine. Increase in engine's life expectancy through engineering in past year will save the American taxpayer over 100 million dollars.

General Electric HIGHLIGHTS of 1953

OUR ELECTRICAL SERVANTS

What's New in Helpers for the Home?

IN the brief period of 75 years since Edison made his first incandescent lamp, electricity has completely revolutionized life inside the American home. It lights, cooks and stores our food, washes and dries our dishes and clothes, heats and cools rooms, entertains us with radio and television. It has brightened the living room, streamlined the kitchen, and cleaned up the cellar.

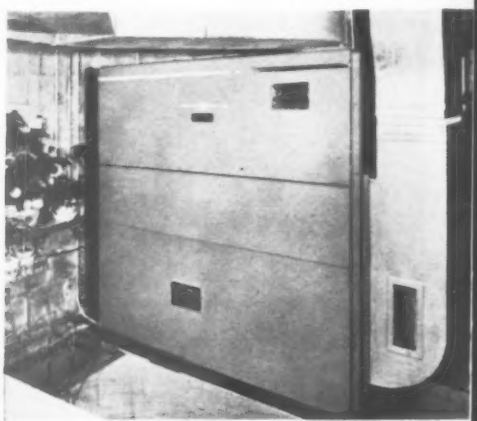
Today the average home uses 2200 kilowatt hours of power a year. Since a man's yearly work output is equivalent to 67 kilowatt hours, by dividing 67 into 2200 we see that the American housewife has at her beck and call 34 electric "servants." Experts predict that by 1970 these "servants" will number 102, or three times the present figure.

Shown on the following pages are some of the appliances that translate these statistics into realities. They are true helpers that make our lives easier and free us for more important work. They are everyday proof that ours is the Electrical Age.

Anyone who has burned his fingers "fishing" for toast will welcome this new G-E toaster. An extra-high toast lift saves fingers, while six-position heating browns toast for all tastes. Triple-Whip Mixer has 12 mixing speeds, an instant beater-release, a built-in light shining on bowl, most powerful motor ever used in a G-E mixer.

Clothing can be pressed in a professional manner with this new G-E Automatic Ironer which does the work of 11 hand irons working at once. Both ends are open to make ironing easier. "Toe-touch" control allows ironing at desired speed, leaves both hands free. G.E. also makes automatic washers and dryers for complete home laundries.

5000 people saw this Wonder Home in Hartsdale, N. Y., on the first day of public showing. Similar medium-priced houses, designed for G.E. by leading architects, are going up across the country. Plans are specially suited to G-E kitchen, laundry, appliances, heating, air conditioning, use G-E construction materials. Designs, supplied to builders, vary to suit conditions and climates of different areas.



G-E Weathertron keeps houses comfortable the year round. In winter it heats with outdoor air, by compressing (which heats it) and circulating it—reverses the process in summer by drawing heat out of air inside the house.

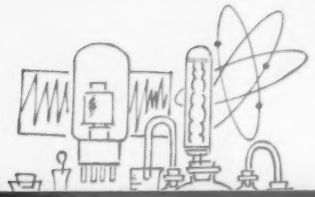
The new, larger capacity dishwasher cleans dishes hygienically, can also serve as a plate warmer. A new control mechanism makes possible double washing for heavily soiled pots and pans.

Taking the discomfort out of summer weather is the job of this G-E Floor Circulator fan. This latest model features a new steel base which encloses the motor, adding safety and sturdiness.

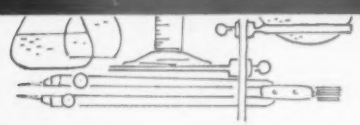
Listening for silence. A quality controller at G.E.'s Telechron Department checks this smartly styled new clock before shipment. Quiet running means that clock mechanism is well adjusted.

1953 refrigerators combine such features as full-width freezer, door shelves, automatic defrosting, adjustable shelves, and butter conditioner. Interesting note: over 3,500,000 G-E refrigerators have been in service ten years or longer.

G-E ranges are pretty dependable too. This 1906 model (top) still cooks with 47 years and tens of thousands of meals behind it. Range was essentially a table with plug-in board for appliances. Below. Old range's owner looks at a gift 1953 model. New models feature larger oven, extra high-speed surface cooking units.



RESEARCH—Pioneering for Tomorrow

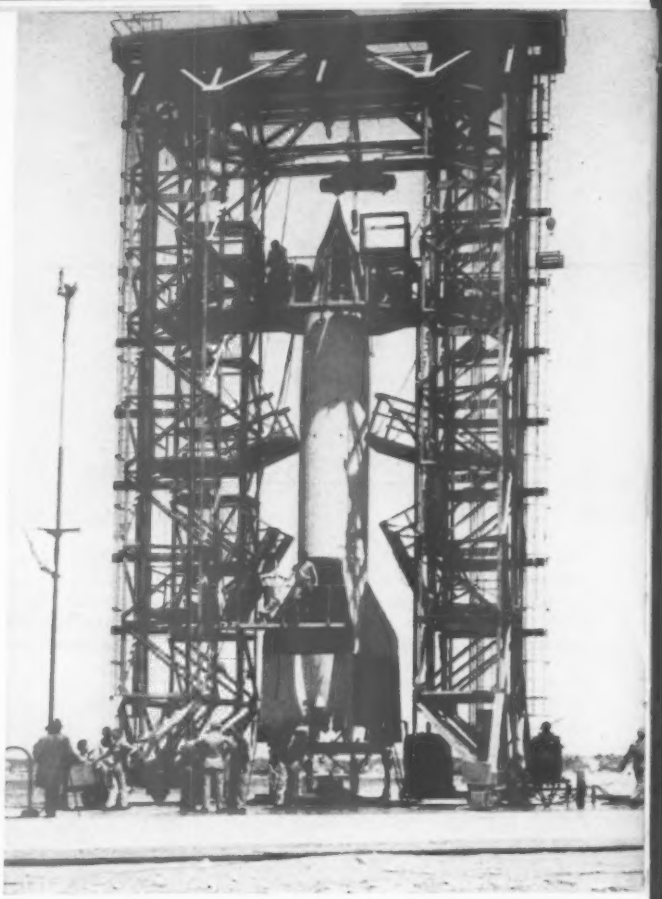


THE search for new knowledge is unending. Day after day, in laboratories throughout the world, scientists perform their experiments, waiting and hoping for results which will advance man one more step toward tomorrow.

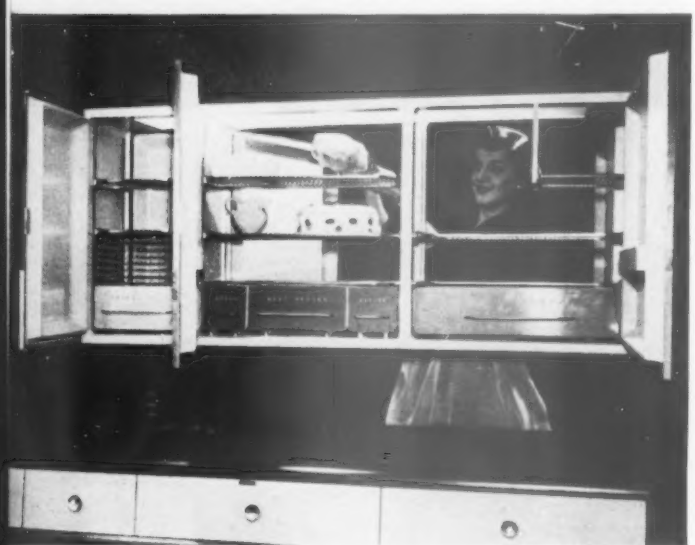
Perhaps this very day there is an announcement in your paper of something "new." Perhaps it is a cure for a dreaded disease; or maybe it is a radical improvement in jet propulsion or house paints or puddings. Whatever it is, however trivial it may seem, it is the result of some new knowledge acquired by man.

These products of research, these developments, are the things which will make tomorrow different from today, just as television and jet flight make our today seem so much different than yesterday.

Scientists in our laboratories are working in such fields as atomic energy, guided missiles, and ultrasonics to push forward the limiting walls of today's knowledge and make way for tomorrow.



As firemen stand ready with water hoses, a giant rocket is hoisted into position for firing at White Sands, N. M. Since 1946, General Electric men and equipment have been used by the Army Ordnance Department in this project. Main object of these high-altitude V-2 flights is to collect information on the upper atmosphere.



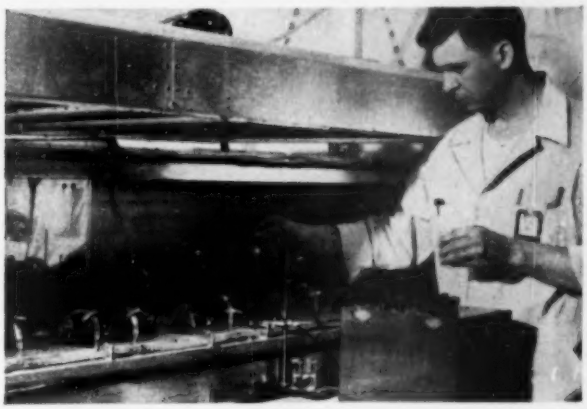
Although it is still in the dream stages and shrouded in secrecy, research may in reality make this XR-10 the refrigerator of tomorrow. New insulation will allow walls only ½-inch thick, is calculated to be 10 times more efficient than that now in use. XR-10 can be opened from either side, has latchless, magnetic doors.

Ultrasonics—sounds which can't be heard by the human ear—are finding increased use in the cleaning of tiny mechanical parts. They literally shake dirt and grease loose from finished parts. G-E researchers continually search for new applications. Fog is effect of sound waves entering the liquid-filled chamber.

Progress in the field of atomic energy depends, to a great extent, upon man's ability to handle materials "hot" with radioactivity. Shown here is the world's largest mechanical hand designed for such work. It can lift, with equal ease, a 7000-lb load or a fragile egg, "lending a hand" where no man could possibly survive.

At Hanford Works in Washington, run for AEC by G.E., scientists raise sheep on foods containing varied amounts of radioactive iodine. Findings will aid in farming, science, civil defense.

Plants, such as these beans, are also raised at Hanford, under carefully controlled conditions, with diet of radioactive isotopes. Experiments are providing fundamental knowledge of plant growth.



Left Scientist at General Electric's Research Laboratory does research in the sterilization of foods with cathode rays. Meat, bread, milk, eggs, and other foodstuffs exposed to rays of this million-volt machine, have been kept fresh for weeks without any refrigeration.

Right Research has also shown that plastic containers, bombarded with high energy electrons, can stand up under steam sterilization. Unlike untreated polyethylene bottles, "cured" container can withstand extreme heat, is suitable for pharmaceutical use.

This young lady is getting a close-up of what the inside of the atomic sphere (front cover) will look like. Model shows the section of submarine hull that will house atomic power plant. The heat created by nuclear fission in the power plant will be transferred by liquid coolant to water boiler, thus creating steam to drive turbine. This plant, producing power from atomic energy as it does, presages the not-too-distant day when atomic power may be generally available.

For extra copies of *Highlights* and a list of school materials, write Public Relations, Dept. 2-119, General Electric Co., Schenectady, New York.

"The undiscovered truths of creation are, I believe, much more numerous and of greater import than the ones thus far discovered."

DR. WILLIS R. WHITNEY,
First director of General Electric research

You can put your confidence in —

GENERAL ELECTRIC

PRG-29

A Career Club Feature

RESEARCH AIDE Marianne Loser shows you the bulky equipment needed to deliver the tiny bits of atomic material which she works with: The material (radiosodium) comes inside a small vial (*in white circle*) inside a lead container (*the top of which is in Marianne's left hand*) inside a big wooden box. The radiosodium is "hot" (dangerously radioactive) and requires this special packing to protect handlers from atomic rays. Marianne "fishes out" the radiosodium with a two-foot string attached to the vial.

She Works With "HOT" Stuff

PRETTY young Marianne Loser is one of the young pioneers of medicine who are using the new atomic materials in man's age-old fight against disease. She is a *research assistant* at New York Hospital-Cornell Medical Center in New York City. The Center has developed many new medical techniques, and is a leader in experiments with radioisotopes. (Radioisotopes are atoms of radio-active substances—*see p. 12.*)

ATOMIC EXPERIMENTS

Recently we visited Marianne in the experimental surgery laboratory at the Center. She works with a group of lab technicians who are conducting experiments on the use of a radioisotope, *radiosodium,* in surgery.

"Isn't your work with radioactive materials dangerous?" we asked.

"We have special equipment to work with and we take all the necessary precautions," Marianne answered. "The amounts of radiosodium we use are small and not dangerous, when handled with care."

We learned that the radiosodium is delivered to the hospital every Monday by a special truck. The truck comes directly from Brookhaven National Laboratories, about 50 miles away at Upton, N. Y. The vial of radioisotope is packed inside a lead container which is screwed securely to the bottom of a big wooden box (*see photo above*). Atomic rays from the radioisotopes can't get through the lead covering.

Marianne puts the radiosodium behind a low lead screen. Reaching around the protecting screen, she treats the radioisotope to remove bacteria, and she dilutes it so that it is harmless. The dilute solution is used as an injection. After the injection, blood samples are taken from the patient and checked for signs of radioactivity. Comparison of the result with reactions of normal blood samples gives a clue to the presence of certain ailments.

Marianne and the other workers in the lab wear special metal badges while working with the radiosodium. The badges record any rays of the radiosodium that might get past the protective lead shields and touch the workers. The badges are tested every two weeks to make sure that their wearers haven't been exposed to the rays. (You can see Marianne's badge on the left lapel of her laboratory smock.)

GIRL FROM GERMANY

Marianne was born in Germany, though you'd hardly guess it from her fluent use of English. As a high school student in Germany, she majored in science, especially chemistry. "But when I came to the U. S. in 1946, I thought I'd like to study to become a fashion designer," she said.

"Like many newcomers, I didn't have much money. A friend said, 'Before you do anything, why don't you go to the New York State Employment Service and take the free vocational tests to see what you're best qualified to do?' So I did. The tests showed my abilities were in science."

SCIENCE SCHOLARSHIP

Her tests were *so* good that the Employment Service offered her a scholarship to college. Marianne majored in chemistry at New York University, and won other scholarships to help her meet expenses. After graduation in 1952, Marianne landed a job as *laboratory technician* at the Center.

Because of her careful work she was picked for experiments with radiosodium. She has been promoted to research assistant. "I find my job very challenging," Marianne said. "We're working in a new field developing new techniques. We're trying to do something to help mankind."

Many private businesses as well as hospitals employ laboratory technicians. They do many different kinds of work, not all requiring college training. Drug manufacturing firms employ large numbers of high school graduates and train them to work in their large laboratories turning out the "wonder drugs" and other products. The average salary of a lab technician is about $4,000 a year.

—*William Favel, Vocational Editor*

Workers: Free Men or Slaves?

YOU don't have to start looking for a job just yet. But probably you're thinking about what you'd like to do when you finish school.

As you consider your future career, you ask yourself such questions as: "What kind of work would I like best? What am I best fitted for? Do I want to work outdoors or in an office? Do I want to travel or to settle in one town? Where will I find a job that will give me a good income and a chance to advance?"

Here are some other questions that wouldn't even occur to you. But they would be first in the minds of boys and girls in communist lands:

"What does the government plan for me? Will it assign me to a job? Will I be sent far away somewhere to work? Will I be able to stay in one place long enough to make a home, or will the government ship me off somewhere else in a few years?"

Compare those two sets of questions. You will see for yourself that the Communists are telling a "Big Lie" when they say: "Communism is the worker's paradise—but in America workers are slaves."

Let's look at the two systems:

1. GETTING A JOB

In our country you can "shop around" for any job you want. We have more than 4,000,000 private businesses. They compete to get the best workers. They try to keep their workers satisfied by giving them good pay and comfortable, healthful places to work. Then employees can do better work and are less likely to quit.

You are also free to start your own business.

Under communism a few people start their own businesses. But they can never grow any bigger than a corner peanut stand or a one-man repair shop—for they aren't allowed to hire workers. Only the government can do that. So nearly everybody works for the government.

The government sets the rules and rates of pay. When there are jobs to be filled, the government may send you an order: "You will report for work at such-and-such a factory." You aren't asked whether you want the job. And the government can transfer you to some other kind of work in another city. You go, whether you like it or not.

2. LEAVING A JOB

In our country, you can quit a job you don't like and look for another.

In a communist country, it's risky to quit your job. The penalty for that, in Communist Hungary, is two to 10 years in a slave labor camp. Having a job that you don't dare quit is a kind of slavery. The Communist managers think: "Why should I treat the workers well if they can't quit anyway?"

3. LABOR UNIONS

Many American workers join a union. Unions bargain with owners of the business for more pay and better working conditions. If the workers aren't satisfied, they may strike.

Communist countries have unions, too. But the government runs the unions. Since the government fixes pay rates, the union leaders can't demand higher pay. They never organize strikes. Their job is to get the workers to produce more. Workers who are discontented are likely to end up as slave laborers.

Last summer in Communist East Germany, workers protested against their working conditions. Russian tanks and East German police drove them back to their factories and many were killed.

4. UNATTRACTIVE JOBS

Suppose somebody offered you a job in a faraway lumber camp, or in a gold mine in the mountains. Life would be lonely and uncomfortable. Still, you might decide that the pay was so high that the job would be worth-while. Or you could refuse.

Communists have a different way to fill jobs that few people want. They use slave laborers. These are men and women condemned—not to prison—but to hard labor on government projects. A few of these are ordinary lawbreakers. But most of them are people whose only "crime" was to be suspected of opposing the Communist rulers.

Russia has eight to 12 million slave laborers. They endure terrible hardships. Many die quickly.

Under freedom, free men work where they please—and produce more than under any slave system. Freedom is the key to prosperity for all. Communism has thrown away this key. We intend to keep it and to use it to open new doors into the future.

New York Telephone Company

Girl at right is applying for a job with a telephone company. She is being interviewed. The interview will help decide two things: 1. Does the girl really want to work for the company? 2. Does the company want to hire her? Freedom to choose the work we want to do is one of our greatest privileges.

"B-DAY"

When the Bloodmobile comes to Anthony, N. M., the teens take over!

TEEN-AGERS "get out the blood" in Anthony, N. M.

Each year the students of Gadsden High "team up" with the Bloodmobile.

Bloodmobiles are special trucks of the American Red Cross which carry nurses and medical equipment. Bloodmobiles stop at schools, factories, churches, and other places; set up their equipment; and collect blood. Each year Bloodmobiles make the rounds of many U. S. towns. The students of Gadsden High sponsor the Bloodmobile's visit to their home town (pop. 1,800).

The high schoolers run their campaign in "one-two-three" style.

"IT'S COMING!"

1. Weeks ahead, they spread the word: "The Bloodmobile is coming!" They put up posters in stores around town, arrange for notices in the local theater, and remind editors and radio announcers to alert their audiences. But they don't stop there. They tramp around town, door to door, collecting signed pledges to donate blood. Townspeople who aren't home get telephoned requests for pledges. The students toil many hours with pencil and paper, arranging appointments for all who've promised blood.

"IT'S HERE!"

2. Then comes "B-Day" (Bloodmobile Day). Into town rolls the Bloodmobile, stopping in front of Gadsden High. The teens snap into action, unload equipment, unfold cots. They help set up a blood collecting center in the school gym. When donors arrive, the teens are waiting. They check hats and coats, take registration, type up forms, and speed up operations in every way they can. Girl students act as nurse's aides and serve refreshments to donors as they file by.

"COME OUT AND GIVE!"

3. The students pitch in to get a big turnout. If a donor needs transportation, a student comes to get him in a borrowed car. If a donor needs a baby-sitter, a student drops by, ready and willing. The teens watch the pledge list like hawks. If a donor is ten minutes late for his appointment, he gets a telephone call and a courteous reminder. The high schoolers do their part as donors, too. Most of those eligible to give blood make sure to do so (*see photo*).

"B-Day" 1953 was February 4. When the blood center opened, it was swamped. Of the 230 persons in the community eligible to give blood, 215 appeared! The Bloodmobile officials were astonished. They called the turnout "one of the best we've seen." When the Bloodmobile rolled out of Anthony, that night, its racks were filled with bottled blood.

"Congratulations," wrote a top Red Cross official to the students of Gadsden High. "Only those who've tried to recruit donors know the hours of hard work required to obtain 215 persons to give blood. With your turnout, I believe you can challenge the country."

Gadsden High expects to hold its third annual "B-Day" this spring.

NEED FOR BLOOD

Does America still need blood donations—even though the Korean War is over?

"Yes!" says the American National Red Cross, official blood-collecting agency for our nation. Last year we used about 3,750,000 pints of blood for transfusions that saved Americans from death or helped them to better health.

A blood transfusion may mean life itself to accident victims; to patients undergoing surgery; to mothers in childbirth. Blood is used in hospitals at the rate of one pint for every five patients admitted. Blood is also the source of GG (gamma globulin) which doctors use to fight measles, mumps, jaundice, and polio.

The average person has about 12½ pints of blood in his body. Most adults (up to age 60), can give a pint four or five times a year without endangering their health. Donating blood is painless. Minimum age for donors is 18.

—BOB STEARNS

STUDENTS at Gadsden High collect blood—and give it, too. At left are donors Clarence Cahaon, John Blackman, Alden Derham, Ginger Chappell. Typing donor forms are Marilyn Boone, Olilia Sierra, Jay Faye Oliver, Gloria Bejarano.

WORLD WEEK presents its "AWARD FOR AMERICAN CITIZENSHIP" to the student body of Gadsden High School, Anthony, N. M.

GOOD CITIZENS AT WORK

Gay Head

ask Gay Head

Q. I'd like to bring my grades up. They aren't exactly hopeless, but they should be higher considering the amount of time I spend studying. Have you any suggestions?

A. Your grades depend only in part on the amount of time you spend studying. Your participation in class and the *way* you tackle your homework are equally important.

Do you pay careful attention to what goes on in the classroom? Do you volunteer to answer questions—take part in discussions when you have something to contribute? Do you ask questions when something isn't clear to you?

Now for your homework. When you can honestly answer "yes" to all of the following ten questions, you'll be making the most of the time you spend on assignments. (What's more, you'll probably find that the time spent is *less*!)

1. Do you use study periods at school to prepare the fairly easy assignments that don't require as much peace and quiet as other assignments do? (If you're guilty of whispering, giggling, or reading comic books during school study periods, you're cheating yourself out of extra free time at home!)

2. Do you make sure that you understand each assignment at the time it is given? (Why waste time calling up friends?)

3. Do you plan your study by job or assignment, rather than by the hour? (Resist that snack until you've finished *all* your algebra problems, and you won't need extra minutes to get into the mood for math all over again.)

4. Do you rest for a few minutes between subjects? (Pausing occasionally is very important. Of course, 35 minutes of pausing to 3 minutes of studying is definitely in the wrong proportion!)

5. Do you have a desk or a table where you always do your studying—and a good stiff-backed chair to sit on, a good light, and all your equipment on hand before you start? (People who say they can study just "anywhere"—and keep jumping up for pen, ink, ruler, or dictionary—usually get "nowhere!")

6. Do you turn off the radio when you tune in on your brain waves? (A one-track mind covers its territory better and faster than one trying to do double duty!)

7. Do you read well and at a good steady speed? (If you're a slow reader, and have trouble understanding what you read, it's a good idea to discuss this problem with your English teacher.)

8. Do you skim a reading assignment quickly first, to get the gist of it, and then reread it more slowly and carefully, jotting down important facts and ideas on notebook paper or index cards so that you'll remember them?

9. Do you "test" yourself if you have to memorize something? (It's also helpful to ask a member of your family to "hold the book" while you recite.)

10. Do you see well and hear well? (If you have any doubts about this, see a doctor for testing and any necessary corrections.)

Q. I date a boy whose lack of manners sometimes embarrasses me. Otherwise, I like him a lot. What can I do?

A. Being a well-bred lass yourself, you can't picture yourself telling Joe, "Look, Mister, people aren't eating peas with their knives this year!" But Joe probably doesn't need to be hit over the head. And you should be able to pass out a few hints without hurting his feelings. Instead of struggling with your own coat, for instance, just hand it to him. He'll get the idea. When you meet a door, step aside and wait for him to open it.

Above all, watch your own manners. Because even if Joe's not paying much attention to anything or anyone else on a date, he's watching *you!* And when he realizes that you value courtesy, he'll be more eager to be courteous himself.

HOW WOULD YOU SOLVE IT?

Speak Up or Keep Still?

When Mrs. Stevenson opened the door and saw Gail standing before her, she looked surprised.

"Oh dear, Gail," she said, "I'd forgotten that I asked you to baby-sit for us tonight. Now Mr. Stevenson and I have decided not to go out, so we won't need you after all."

Gail had refused a party invitation and taken a bus across town to do a job that turned out not to be a job at all. She was angry. Still, she didn't want to lose a customer. So she just stood there, saying nothing.

• • •

1. If you were Gail, what would you have done? Swallowed your anger, and gone home without saying anything? "Blown your top"? Asked Mrs. Stevenson to pay you for at least a part of the evening, since you had kept your part of the bargain and she hadn't been thoughtful enough to call you ahead of time? Explained quietly that you had been counting on the job, that coming had put you to some trouble, and that, unless she called you in the future about any cancellations, you wouldn't sit for her again?

2. When you think someone has taken unfair advantage of you, what do YOU do? Speak up immediately? Ignore it? Try to get even? How do you keep from being "taken in" a second time—or do you?

3. When and where do you draw the line between being "pushed around" and being a "pusher"? Is it ever better to fight than to "turn the other cheek"? When, and to what extent? Do people have more respect for you if—in a tactful way—you speak up for yourself, your ideals, your friends? Do you have more respect for yourself?

Sizzling Hot in the Water!

AT THE rate he's going, 15-year-old Gene Adler of Tilden H. S., Brooklyn, N. Y., will swim away with all the medals in the world by the time he's 20. He's just about the hottest young fin-flapper in captivity.

Some folks thought he was merely being given a free ride when he was chosen to compete in the Maccabiah Games in Palestine last fall. But Gene, then *just 14½*, proceeded to win the 200-meter butterfly event against some of the greatest swimmers in the world. That marked him as a phenomenal prospect for the 1956 Olympic Games.

Actually none of the *experts* was surprised at Gene's showing. For only a few months before, this baby-faced high school sophomore astounded the swim world by splashing off with the *national* four-mile title—becoming the youngest athlete ever to win a senior national swim event.

This wasn't the first splash made by Gene-ie with the light brown hair. Back when Gene was barely 13½, he competed in the national championships in Newark, N. J. He dressed alongside Ford Konno, perhaps the greatest swimmer in the world.

The great Konno blinked when he saw baby-faced Gene, who looked as if he'd just escaped from a crib. Konno turned to a buddy and murmured, "Gosh, what are the Nationals coming to? I didn't know they let children enter."

The "child" promptly finished seventh in the 300-yard individual medley and ninth in the 200-meter breast stroke. Not bad for a *child*, eh?

Gene, who stands 5' 7" and weighs 155 lbs., is probably the only swimmer ever to be coached by a glass blower. His coach, Henry Pferr, blows glass by day and teaches swimming by night at the Brooklyn Central Y.M.C.A.

Gene's dad brought him to Pferr when Gene was seven. Gene started lugging home medals and trophies soon afterward. "Mr. Pferr doesn't stress form," Gene says. "He believes in having you swim whichever way you're comfortable. Condition counts most with him."

The remarkable thing about Gene is that he's equally outstanding in three different strokes—back, breast (butterfly, in particular) and free style. Just to show you he doesn't dabble or dawdle, Gene's best times are: 100-yard free style, 53.8; 220 free, 2:14; 440 free, 4:52; 100 back, 1:02; 100 butterfly, 1:02; 150 medley, 1:35.

At Tilden, Gene has set his sights on a fascinating goal. He won the New York City public high school 100-yard breast stroke crown last year and is favored to win the 220 free style this winter. His plan is to bid for the 100-yard back stroke and 100-yard free style titles in his remaining two years. Nobody's ever captured four different PSAL championships.

On a national scale, outside of his long-distance title, Gene is proudest of the second he took to Australia's Olympic ace, Dave Hawkins, in the national 200-meter breast stroke last summer.

Internationally speaking, Gene is still raving about his trip to Palestine. It was his first plane ride and he nearly celebrated it with a bang. A crash, that is. "When the plane left London Airport on its way to Greece," Gene related, "one of the motors conked out and we had to return to England. Though we knew this wasn't a rare occurrence, we felt very shaky until we landed. Of course, we took off again soon after."

Gene's teammates at the Maccabiah Games included, among others, Don Rosenthal, Southern California; Marty Smith, Yale; and Bernard Kahn, formerly of Michigan.

"We lived at the Hotel Windsor in Haifa," Gene said. "I'm afraid the food wasn't very good. Too spicy. And we all had dysentery. I lost 15 pounds."

The team returned to the States Nov. 1, meaning Gene missed more than a month of school. Since he's an 85-student, though, he didn't have much trouble making up his work.

Gene's movie favorites are Richard Widmark and Marilyn Monroe. No hobbies. Favorite subject: Biology.

His only regret: "I wanted to be a baseball pitcher." —ZANDER HOLLANDER

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. . . and that's what we mean! This letters column, a regular feature, is open to opinion on any subject and criticism of any kind, brickbats or orchids. We want to know *what's on your mind.* Other readers do, too. Address Letters Editor, *World Week*, 33 West 42nd St., New York 36, N. Y.—*The Editors.*

Dear Editor:

We read your article in the November 11 issue of *World Week* on "Teens vs. Vandalism." We have no student court here at Garfield Elementary School, but we are interested in organizing such a program. We would appreciate any ideas or suggestions from other schools.

Jack Alberts, Sharon Quiring, Mary Bonin
Garfield School, Spokane, Wash.

Dear Editor:

I read your *World Week* and like it very much. I like the "Movie Check List." It's a good way to save money. I wish you had a list of pen-pals which we could write to at least once a month.

Shirley Frear
Greene (N. Y.) Central School

Here are a few pen-pal possibilities from *World Week's* "mailbag":

Nabil Ibrahim, Pen Pal Club, 36 Durry Street, Agouza, Cairo, writes: "I am an Egyptian student in the last year of the secondary school. I have founded a Pen Pal Club in Egypt for the benefit of all students (boys and girls) in America who want to correspond with Egyptian students. By this way I believe that I can encourage the exchange of information and general knowledge and increase the friendship between our two countries."

Joan McRobert, age 15, 22 Tyler Street, Joondanna Heights, Western Australia, writes: "I wish to gain the friendship, by post, of one of your cities' young girls. America has long fascinated me and I desire to learn more of your wonderful city of New York."

Rose-Mary Batz, 21b., Dortmund i./Wesbf., Landgrafenstr. 140, Britische Zone, Germany, writes: "Please see that you can get an address for me of a girl or a boy. I am very sorry when I cannot get one."

Dear Editor:

I enjoy reading *World Week* very much, and I especially enjoy the sports section. But someone messed up on the crossword puzzle in the January 6 issue. There is no clue to number 5 across.

Donald Lee Montgomery
Annapolis (Md.) Jr. H. S.

The definition for No. 5 was labelled "2." Sorry, Donald—and Vince Savino of Beeber Jr. H. S., Philadelphia, who also called this to our attention. To Frances Costello and Sylvia Yoke, New Oxford, Pa., H. S.—in the Dec. 2 crossword puzzle, 39 down should be CRAG.—*Ed.*

Oceanic Oases

By Roger Caven, Washington High School, St. Paul, Minn.

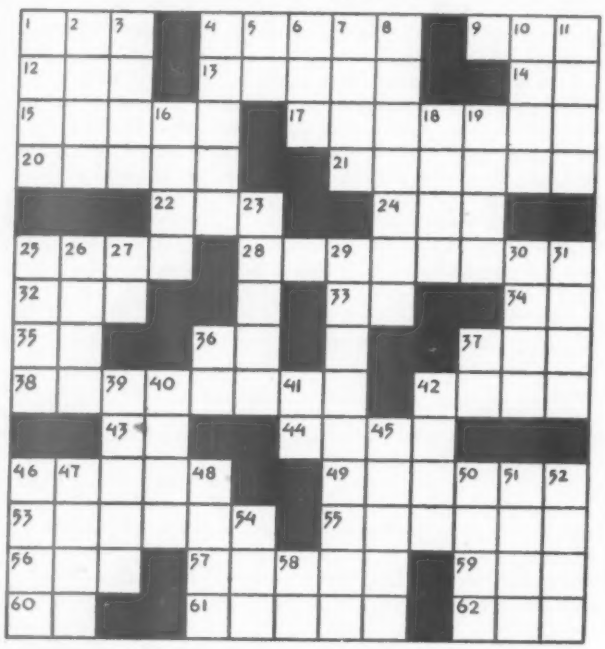
★ Starred words refer to islands.

ACROSS

° 1. At tip of South America, Tierra _____ Fuego.
4. This shrub may be poisonous.
° 9. Island group in Western Pacific Ocean.
12. Aboriginal (*abbr.*).
13. Barter.
14. Artificial language.
*15. _____ or Friendly Islands.
*17. Island in the Philippines.
20. Ire.
21. Bend again.
22. Snare.
24. Wager.
25. Present, bestow.
28. Freeze together again.
*32. Hawaii is a territory of _____.
33. Rupees (*abbr.*).
34. Oliver (*abbr.*).
35. Chemical symbol for aluminum.
36. Not Pa.
37. Ambassador (*abbr.*).
*38. Island off northern coast of Australia.
*42. Havana is its capital.
43. Each (*abbr.*).
44. Upon.
46. Use, benefit.
*49. Indonesian island near Java.
*53. Third largest island.
55. Punish by a monetary penalty.
56. Novelist _____ Yutang.
57. Solitary.
59. Dined.
60. Nickname for Edward.
61. Tears; splits.
62. Nickname for Republican party.

DOWN

1. Facts.
° 2. Island in the Ralick Chain of the Marshall Islands.
° 3. _____ Island lies east of New York City.
4. Gaze at.
5. Ancient Biblical city, home of Abraham.
6. Chart.
7. Month in Hebrew calendar.
° 8. Indonesian island west of Borneo.
*10. Island off northeast coast of Ireland.
11. Small body of water.
16. Dancer _____ Kelly.
18. Cain's brother.
19. New Zealand locust.
23. Test.
*25. Important U. S. air and naval base in Pacific.
*26. The _____ of Capri.
27. State known as *The Mother of Presidents* (*abbr.*).
*29. Largest island.
30. Grave, vault.
*31. Island on which Napoleon was first exiled.
36. Note of musical scale.
37. Chemical symbol for gold.
39. Acquire knowledge.
40. Futile.
41. Behold!
42. Approach.
45. Ponderous volumes.
46. Competent.
47. Empty space; vacuum.
48. Shakespeare's *King* _____.
50. Boast.
51. Prefix meaning eight.
52. Retain.
54. Spanish cheer.
58. Upon.



STUDENTS are invited to submit original crossword puzzles for publication in *Scholastic Magazines*. Each puzzle should be built around one subject, which may be drawn from History, Art, Science, or any field of knowledge. Maximum about 60 words, of which at least 10 must be related to the theme. For any original puzzle published we will pay you $10.00. Entries must include puzzle, definitions, and answers on separate sheets. Keep a copy as puzzles cannot be returned. Give name, address, school, and grade. Address: Puzzle Editor, *World Week*, 33 W. 42 St., New York 36, N. Y. Answers in next week's issue.

"CRAWL-INSIDE" SUIT

OUR FRONT COVER shows you the latest thing in "work togs" for employees at the huge plant in Richland, Washington, which produces plutonium for the Atomic Energy Commission. The suit is worn by men who must enter dangerously radioactive areas of the plant to do clean-up or maintenance work. The suit is attached by a flexible, hollow "tunnel" to a hole in the wall. The employee crawls through the hole and the tunnel into the suit. The plastic fabric wards off the deadly rays from atomic material in the room. The suit is inflated with air while worn, so that if it springs a leak, air will seep out, but the suit won't draw in air contaminated by radioactivity. Just to be on the safe side, the worker also wears an air mask (*see photo*). General Electric Company operates the plutonium plant where the suit is used.—*Photo courtesy General Electric Company.*

MOVIE CHECK LIST

✓✓✓✓Tops, don't miss. ✓✓✓Good. ✓✓Fair. ✓Save your money.

Drama: ✓✓✓✓Knights of the Round Table. ✓✓✓✓The Conquest of Everest. ✓✓✓✓Annapurna. ✓✓✓✓The Wild One. ✓✓✓✓Julius Caesar. ✓✓✓✓The Cruel Sea. ✓✓✓✓The Actress. ✓✓✓✓ Roman Holiday. ✓✓✓✓Rob Roy, the Highland Rogue. ✓✓✓The Robe. ✓✓✓ All the Brothers Were Valiant. ✓✓✓Mogambo. ✓✓✓Take the High Ground. ✓✓✓Master of Ballantrae. ✓✓✓His Majesty O'Keefe. ✓✓Botany Bay. ✓✓The Glass Web. ✓Project No. 7. ✓Othello.

Musical: ✓✓✓✓Give the Girl a Break. ✓✓✓✓Gilbert and Sullivan. ✓✓✓✓Lili. ✓✓✓Calamity Jane. ✓✓The Eddie Cantor Story.

Comedy: ✓✓✓✓Long, Long Trailer. ✓✓✓The Titfield Thunderbolt. ✓✓✓Forever Female.

Documentary: ✓✓✓✓The Living Desert. ✓✓✓✓A Queen Is Crowned. ✓✓✓ The Sea Around Us. ✓✓Song of the Land.

Answers to Puzzle, Feb. 3

ACROSS: 1-Coral Sea; 7-rain; 9-Eyre; 10-Gd.; 11-Ca(nberra); 13-dirk; 14-Melbourne; 18-Eliz(abeth); 19-she(ep); 21-N(ew South W)al(es); 22-N. T.; 23-yea; 25-(Hob)art; 27-Ind(ian); 28-Dar(l)ing; 30-even; 32-Lon(don); 33-sit; 34-oil; 35-Bri(tain); 37-Kalgoor(lie); 39-Tas(mania); 40-Cook.

DOWN: 1-CI; 2-on; 3-le; 4-Sydney; 5-Erie; 6-aer; 7-R. G. Menzies; 8-Adela(ide); 11-Co(mmonwealth); 12-Australia; 15-Lilibet; 16-Bz.; 17-R. H.; 20-kangaroo; 22-N. A. D.; 24-ein; 26-troll; 29-In(donesia); 31-Vict(oria); 34-O. K.; 35-boo(merang); 36-irk; 38-G. C.

On the Alert

Nancy: "Is your dog a good watchdog?"

Dick: "I'll say he is. If I hear a suspicious noise at night all I have to do is wake him up and he begins to bark."

Increase in Size

Bob: "Why is the schoolyard always larger at recess time?"

Paul: "Because there are more feet in it."

Quite a Spell

Bill (calling long distance operator): "I want to talk to my cousin in Snohomish."

Operator: "How do you spell that?"

Bill: "If I could spell it, I'd write him a letter."

Oh, Bumbershoot!

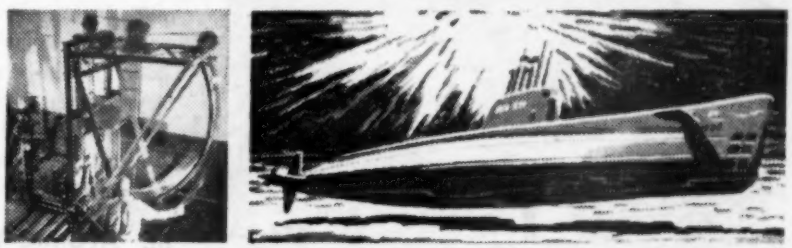
Traveler: "This is a very wet country. What do you raise here?"

Native: "Umbrellas."

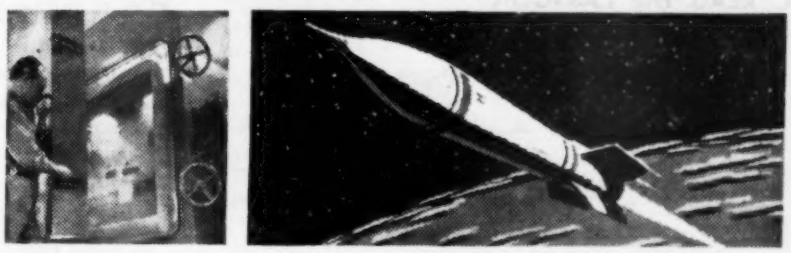
Tele-facts

Trial for COMBAT!

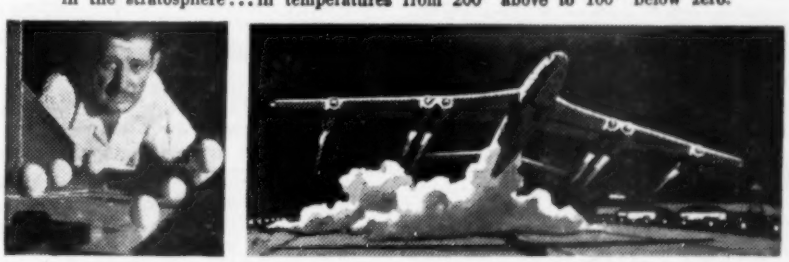
Bell Laboratories scientists are always working on new ways to make telephone service faster, better, cheaper. Because of their many electronic inventions, these scientists are also asked to help develop new electronic gear for our armed forces. Here are some of the ways they test intricate equipment for submarines, tanks and planes . . . without ever leaving the lab!



They "make" underwater explosions in this high impact machine. Equipment being tested is placed near the impact of a 400-pound hammer falling 5 feet.



This chamber tests equipment under pressures from sea level to 13 miles up in the stratosphere . . . in temperatures from 200° above to 100° below zero.



This jiggling machine shakes up equipment just the way airplane engine vibrations do. Ping-pong balls placed on this same machine seem to dance in mid-air.

Tests like these show how telephone scientists develop rugged, dependable equipment. It helps make our country strong. And the knowledge and experience gained help give you better, low-cost telephone service, too.

BELL TELEPHONE SYSTEM

Know Your World

A Workbook Page for the Unit on Atomic Energy

Fitzpatrick in St. Louis Post-Dispatch

I. READ THE CARTOON

Answer briefly in the blank spaces.

1. What great force is the subject of this cartoon?

_____

_____

2. Who or what does the man in the foreground represent?

_____

_____

3. What, according to the cartoonist, will be his fate if he takes the wrong fork in the road?

_____

_____

4. What awaits him if he takes the other fork?

_____

_____

5. Make up a title for the cartoon.

_____

_____

II. ATOMIC FACTS

Write T or F if the statement is *true* or *false*. Write O if it is a matter of opinion.

__1. The first nation to produce an atomic bomb was the United States.

__2. In the long run, atomic energy will do mankind more good than harm.

__3. Russia refuses to sign a pledge not to use the atomic bomb, but wants the U.N. to inspect all countries to try to find atomic bomb factories.

__4. The U. S. should reduce the size of its army and depend more on building atomic weapons.

__5. President Eisenhower believes Russia is now able to launch an atomic attack on the U. S.

__6. President Eisenhower wants the nations to share atomic materials for peaceful use.

__7. As long as we distrust Russia, the U. S. should keep on producing atomic weapons.

__8. The "H-bomb" is less powerful than the "A-bomb."

__9. Russia, Britain, and the U. S. are the only nations known to be making atomic weapons.

__10. Some peaceful uses have been already found for atomic energy.

III. ATOMIC TALK

Write in blank before each atomic term in Group A, letter of phrase in Group B that fits best.

Group A

__1. Geiger counter
__2. radioisotope
__3. uranium
__4. nuclear reactor
__5. atom

Group B

a. Tiny particle, of which matter is built.
b. Mineral used to produce atomic energy.
c. Instrument that detects atomic rays.
d. "Furnace" that produces atomic energy.
e. Radioactive form of chemical element.

IV. PUT ON YOUR THINKING CAP

Answer on separate sheet of paper.

What use of atomic energy do you think will be of greatest value to mankind within your lifetime? Why?

If you were Secretary of State Dulles, what would you tell the Russians to convince them that they should accept President Eisenhower's proposal for a "United Nations atomic bank"?

If it is desired to use this workbook page as a scored quiz, the following scoring is suggested: 7 for each item in Question II, 6 for each item in Question III. Total, 100.

Words at Work

Words defined and pronounced here appear in articles in this issue.

interceptor (p. 10)—The verb "intercept" means to interrupt something in its course and stop it before it reaches its destination. A fighter plane designed to attack invading planes is called an "interceptor." Noun.

turbine (p. 11)—An engine which turns by pressure, usually of a liquid or gas. Noun.

generator (p. 11)—A machine, turned by a turbine, which produces electric power. It changes mechanical energy (motion) into electrical energy. Noun.

watt (p. 11)—A unit for measuring electric power. Noun.

atomic (p. 9)—Pertaining to the atom, which is the basic unit of all matter, and consists of electrically charged and uncharged particles in rapid motion.

atomic bomb (p. 9)—An explosive material created by bringing together enough uranium-235 or plutonium to start an uncontrolled atomic reaction.

hydrogen bomb (p. 10)—An explosive material created by bringing together hydrogen atoms under great heat and pressure, in such a way that two atoms of hydrogen unite to form an atom of helium. In this process a small amount of matter is left over and is transformed into energy with terrific explosive force. The sun is in effect a gigantic hydrogen bomb.

nuclear (p. 12)—Pertaining to the nucleus of the atom, the central core, which consists of particles with a positive electrical charge and of uncharged particles.

Geiger counter (p. 13)—An instrument for detecting radioactive particles. It consists of a tube containing a gas which conducts electric impulses from atomic rays. The impulses make a clicking sound or move a dial pointer.

radioisotope (p. 13)—All the materials in the world are composed of one or more substances which are different in chemical composition. These basic substances are called chemical elements. Many chemical elements occur in two or more slightly different forms, called isotopes. Sometimes one or more isotopes of an element are radioactive. Most radioactive isotopes do not occur in nature, but many have been created in the atomic furnace. The term *radioisotope* is often used to refer to a radioactive isotope.

radioactive (p. 13)—A substance which gives off rays from the atomic nucleus is said to be *radioactive*. Some elements which occur in nature are *radioactive*, such as radium, uranium, and thorium.

Say It Right!

Strauss (p. 4)—Strôz.
Christofilos (p. 4)—krĭs **tō** fĭ lŏs.
atomic (p. 4)—ă **tŏm** ĭk.
Hiroshima (p. 9)—hē rō **shē** mă.
uranium (p.) û **rā** nĭ ŭm.
Baruch (p. 9)— băr **ōōk**.
hydrogen (p. 10)—**hī** drō jĕn.
repeal (p. 10)—rē **pēl**.
electronic (p. 10)—ē lĕk **trŏn** ĭk.
radar (p. 10)—**rā** dăr.
interceptor (p. 10)—ĭn tĕr **sĕp** tĕr.
missile (p. 10)—**mĭs** ĭl.
Nike (p. 10)—nī kē.
turbine (p. 11)—**tûr** bĭn.
generator (p. 11)—**jĕn** ĕr ā tĕr.
nuclear (p. 11)—**nû** klē ĕr.
Nautilus (p. 11)—**nô** tĭ lŭs.
cancer (p. 12)—**kăn** sĕr.
Geiger (p. 12)—**gī** gĕr.
phosphorus (p. 12)—**fŏs** fō rŭs.
fertilizer (p. 12)—**fûr** tĭ lĭz ĕr.
radioisotope (p. 12)—**rā** dĭ ō ī sō tōp.
vial (p. 29)—**vī** ăl.
plutonium (p. 35)—plōō **tō** nĭ ŭm.

NOW IS YOUR LAST CHANCE TO ENTER THE

PLANTERS PEANUTS PRIZE CONTEST!

FIND 10 MISTAKES IN THIS PICTURE AND FILL IN THE LAST LINE OF THE LIMERICK BELOW!

There's a lively young girl named Marie
—What a popular student is she!
Full of pep, vim, and zest,
She can pass any test
Example:
'Cause she eats Planters Peanuts, you see!

READ THESE PLANTERS PEANUTS CONTEST RULES CAREFULLY

1. Anyone under the age of twenty may compete.

2. Study the scene above and list on a sheet of paper ten mistakes you find in it. State each carefully and clearly. With your list submit a last line to the above limerick.

3. Each contestant may submit more than one entry. Send empty Planters bag, wrapper or label bearing a picture of Mr. Peanut with each entry, or send a hand-drawn facsimile showing Mr. Peanut. On top of page write your name, age, home address, city, and state. Fasten the bag, wrapper or picture to your entry.

4. Mail entries to Planters Contest Editor, 33 West 42 Street, New York 36, N. Y., to arrive by midnight, Feb. 22, 1954. No entries accepted after that date.

5. Prizes will be awarded to those submitting correct list of 10 mistakes, and whose limericks are considered best by the judges.

The judges' decision is final. Winners will be announced in the issue of this magazine of April 28, 1954, as well as by direct mail. No other acknowledgment of entries will be made. In the event of a tie for any prize offered, a prize identical with that tied for will be awarded each tying contestant.

231 PRIZES!

1st prize $35.00
2nd prize $25.00
3rd prize $15.00
4th prize (3) . . $10.00 each
5th prize (5) . . $ 5.00 each
6th prize (20) . $ 1.00 each
200 Honorable Mentions—two 8-oz. vacuum-packed tins of Planters Peanuts.

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STAMPS

1954 U. S. Prospects

How many new stamps will the U. S. issue in 1954? Postal officials are now drawing up this year's stamp program. Some stamp writers predict that the Department will issue a dozen new stamps in 1954. Last year, 13 were issued.

Many suggestions for new stamps have been sent to Congress. There are requests for stamps commemorating: the 100th year since the setting up of the Territory of Kansas; the 100th year since the setting up of the Territory of Nebraska; the 300th year since the first Jewish settlers arrived in America; the 125th year since the first trial run of the locomotive "Stourbridge Lion" at Honesdale, Pa.

Requests also have been made for stamps honoring the memory of: Amelia Earhart; Robert A. Taft, former Senator from Ohio; Fred M. Vinson, former Chief Justice of the United States; Maurice J. Tobin, former Secretary of Labor; Kit Carson, and others.

Many stamp collectors have asked that the words "In God We Trust" be printed on all future U. S. stamps.

Watch this column for news of new U. S. stamps and for first-day cover details. A first-day cover is an envelope which carries a newly-issued postage stamp. The envelope and stamp are postmarked on the first day of the stamp's official release.

STAMPING GROUNDS: The United Nations has issued an album for U. N. stamps and postal stationery. The album is a three-ring binder with 32 pages. It has space for mounting single stamps and blocks of four of each stamp issued by the U. N. through 1953. The album also gives information about the U. N. Cost of album: $1.50. You can order a copy from: The Washington Press, 43 William Street, Newark 2, N. J.

—TONY SIMON

Postal Philatelic Agency

On February 2, Denmark issued this commemorative showing early telegraphic equipmsnt. The stamp, in red, pays tribute to the 100th year since the start of telegraphic service in Denmark.

What Are 'Approvals'?

Scholastic Magazines accept stamp advertisements only from reliable and trustworthy stamp dealers. Our readers are advised to read an advertisement carefully before sending money for stamps. If the advertisement mentions the word "approvals," the stamp dealer will send you in addition to any free stamps, or stamps you pay for in advance, a selection of other stamps known as "approvals." Each of these "approval" stamps has a price clearly marked. If you keep any of the "approval" stamps you must pay for them and return the ones you do not wish to buy. When writing to stamp advertisers be sure to write your name and address on your letter and on the upper left-hand corner of the envelope. If you do not intend to buy any of the "approval" stamps return them promptly, being careful to write your name and address in the upper left-hand corner of the envelope in which you return the stamps. Scholastic Magazines will do all in their power to protect their readers from unfair practices. Any reader who considers that he has been deceived as a result of his response to an advertisement in Scholastic Magazines is urged to appeal to the Executive Editor, Scholastic Magazines, 33 W. 42nd St., New York 36, N. Y.

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8 diff. countries 25¢ Coins 50 diff. coins—35 countries, incl. 8 silver coins—$3

JOLIE, Box 191, RUGBY, BROOKLYN 3, N. Y.

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TATHAM COIN CO. 92 SPRINGFIELD 3, MASS.

Perfect Manners

Cowhand: "Did you find this horse well behaved while you were riding him?"

Greenhorn: "I should say I did. He has such good manners that whenever we came to a fence, he let me go over first."

Daffynition

Sam: "What is a caterpillar?"
Jane: "An upholstered worm."

Preference

Farmer: "The governor made a right good speech in favor of us farmers, didn't he?"

Hired Hand: "Yep, but a half-hour's rain would have done us a heap more good."

Boys' Life

High Speed

Officer: "You were going 70 miles an hour."

Woman Driver: "Isn't that marvelous! I just learned to drive yesterday."

Cavity Case

Joe: "Did you have an interesting time at the dentist's?"

Pat: "Goodness, no! I was bored to tears."

Comeback

Chad: "Did you hear about the Australian boy who got a new boomerang for his birthday?"

Mac: "Yes, and he had the worst time throwing his old one away."

Fair Weather Umbrella

Sally: "Does your umbrella always leak like this?"

Jane: "No, only when it rains."

Good Question

Teacher: "Ants are the busiest insects we know of."

Pupil: "Then how do they always have time to go to picnics?"

Tooth Truth

Bill: "What do you call the last teeth we get?"

Pete: "False ones."

Not in His House

The congressman's wife roused her husband from a sound sleep.

"Get up," she whispered, "There's a robber in the house."

"Impossible," was his sleepy reply. "In the Senate, yes, but in the House, never!"

Coronet

Skyscraper

Jim: "Why is the library the tallest building in town?"

Bob: "Because it has the most stories."

Watch Out

Apparently he was new to the game of golf, for he took numerous swipes at the ball without making any contact. At last, something flew forward in front of him and he straightened up with a happy sigh of satisfaction.

"Thank heavens!" he exclaimed. "It's gone at last!"

"Excuse me, sir," said the caddie, "but that was your wrist watch."

Birmingham Weekly Post

No Way to Study

Jack: "I spent ten hours over my history book last night."

Roy: "Ten hours!"

Jack: "Yes, I left it under my bed when I went to sleep."

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NEW "Closer Grooved" 78 R.P.M. RECORDS
THIS WEEK'S 18 Hit Parade SONGS

Now! 6 Complete Hits on 1 Standard Speed 78 Record or 45's

WITH DEAN MARTIN AND OTHERS
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AMAZING NEW RECORDING PROCESS puts Grooves closer together. You get 10,000 inches of grooves on 1 ten inch record! You get 3 Song Parade Hits on each side—Recorded by the famous Dean Martin, and Jeff Clark of the Lucky Strike Hit Parade and others—a complete Song Parade Hits on each side! You save $18.04. You pay only 17¢ a song. Only $2.98 for all 18! You hear 3 songs without having to change the record.

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SNOOKY LANSON
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1. Oh, Mein Papa
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3. Changing Partners
4. That's Amore
5. Rags To Riches
6. Ricochet
7. Heart Of My Heart
8. Granada
9. Ebb Tide
10. You Alone
11. Secret Love
12. The Jones Boy
13. Woman
14. Istanbul
15. Sh, Cumpari
16. Oh! Marie
17. You, You, You
18. Madcap

☐ **18 HILLBILLY SONGS — ONLY $2.98**

1. Bimbo
2. There Stands the Glass
3. Let Me Be the One
4. I Really Don't Want to Know
5. Changing Partners
6. Wake Up Irene
7. Satisfaction Guaranteed
8. I love You
9. Yain't Nice
10. I'll Never Get Over You
11. Release Me
12. Caribbean
13. You All Come
14. Tennessee Wig-Walk
15. Tech-A-Tecm
16. Just Married
17. Let's Kiss & Try Again
18. North Wind

☐ **18 COUNTRY HYMNS ONLY $2.98**

1. Farther Along
2. The Family Who Prays
3. While The Ages Roll On
4. Mansion Over The Hilltop
5. Peace In The Valley
6. From The Manger to The Cross
7. Someone To Care
8. I Can't Help What Others Say
9. I'm Using My Bible For a Road Map
10. If We Ever Meet Again
11. I Know Who Holds Tomorrow
12. Glory Land March
13. No Tears In Heaven
14. Man of Galilee
15. Too Much Sinning
16. Suppertime
17. Crying In The Chapel
18. The Great Milky Way

☐ **18 MOST POPULAR RHYTHM & BLUES $2.98**

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3. Please Don't Leave Me
4. Too Much Lovin'
5. Please Love Me
6. Shake A Hand
7. Get It
8. Don't Deceive Me
9. Mercy? Mr. Percy
10. Just Walkin' In the Rain
11. Feeling Good
12. Dragnet Blues
13. Why? Oh Why?
14. Third Degree
15. 40 Cups of Coffee
16. Cross My Heart
17. One Scotch
18. Crying in the Chapel

☐ **12 SQUARE DANCES & BOOK — $2.98**
You get 12 Square Dance Songs by Hap Williams and others plus Gift Book "Square Dancing" for $2.98

1. Mockin' Bird
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11. Little Brown Jug
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PLUS BOOK: ☐ 78 RPM ☐ 45 RPM
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5. Takes Two To Tango
6. My Baby's Coming Home
7. Lady of Spain
8. Keep It A Secret
9. Hold Me, Thrill Me, Kiss Me
10. Why Don't You Believe Me
11. Till I Waltz Again With You
12. Don't Let the Stars Get In Your Eyes
13. Trying
14. Even Now
15. Glow Worm
16. Have You Heard
17. Side By Side
18. Oh Happy Day

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watch your language!

don't say
George . . . .

when you mean
gorge . . . . . .

Many famous men have been named George—which is all the more reason not to confuse the name with a steep, narrow valley (gorge).

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Planters means peanuts in <u>any</u> language!

General Electric Highlights of 1953

A Lesson Plan for General Classroom Groups

How to Use This Pictorial Section

1. The pictures, with brief accompanying texts, are divided into five chapters designed to explain the highlights of General Electric industrial activity in the last year. Discussion questions, based on each of the chapters, are suggested below.

2. The material lends itself to open-book work. The questions will evoke the most discussion if pupils are permitted to open the insert to the appropriate chapter.

3. If further activity is practical, the suggestions under "Things to Do" may be drawn upon by both junior and senior high school students.

4. If desk dictionaries are available, they will be of help to students who should acquire familiarity with a technical vocabulary that is becoming part of our everyday speech.

DISCUSSION QUESTIONS

Muscle Power (pp. 3-5)

1. What are some of the industries you can work in today that were unknown when Thomas Edison was your age?

2. Study the picture of the modern steam plant in India, on page 4. How would the picture differ if the steam plant were being constructed in our country? Account for the differences.

3. What effect has the development of the electric motor had on the industrial productivity of the United States?

Toward Better Living (pp. 6-8)

1. How have electrical developments changed our ways of having a good time? How have our chances for a longer life been increased?

2. Study the TV pictures on page 7. How is General Electric trying to bring more and better TV to the American people?

3. How do the conditions in your school compare with those pictured on page 8?

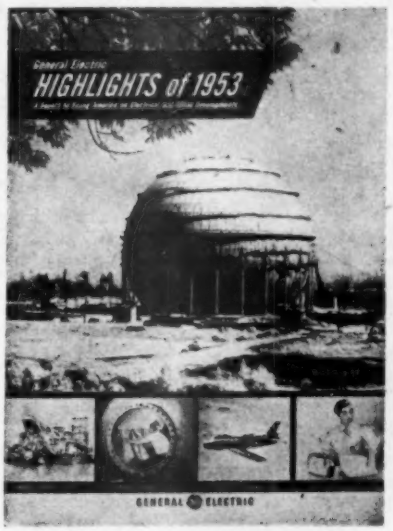
For America's Defense (pp. 9-11)

1. Would you be willing to work atop New Hampshire's Mount Washington (see page 10)? What factors would enter into your decision?

2. How has the General Electric company aided in defending the United States against possible enemy attack?

Our Electrical Servants (pp. 12-13)

1. How has life at home been made easier since your grandmother was a girl?



2. Latest figures tell us that there are eight electric motors at work in the average American home. Make a list of the motors in your home and their uses.

Research (pp. 14-15)

1. Describe the training in research methods you are getting in school. How might this training be improved?

2. How are General Electric researchers helping to bring about a better tomorrow?

SUMMARY AND APPLICATION

1. If the generation of electric power were halted in the United States for one month, how would your life be affected?

2. At General Electric they say, "Progress is our most important product." How has this picture section helped to prove that statement?

Things to Do

1. Find a book or pamphlet in the school or local library which will help you to understand the careers open to you in the electrical industry. How can a high school and higher education help you to prepare for such careers?

2. Make a survey of your neighborhood. Report on the ways in which electric power affects the life of the community. Be specific.

3. Obtain your family's electric bills for the past year. Show the monthly costs in a broken line or bar graph. Be sure to make the intervals large enough so that changes in costs are shown clearly.

4. List the electrical devices used in your own home.

5. Write a verse or two in which you capture the idea that the uses of electric power have grown greatly since the invention of the electric lamp.

6. Draw a cartoon which might have been used to illustrate this booklet.

7. You are preparing a 15-minute TV program called, "Young America Looks at an Electrified World." Which of the pictures or developments in the insert would you include in the program? Justify each.

Electrical Quiz

Place the number preceding the correct answer in the space to the left.

__a. A *masonry drill* is an important tool in each of the following industries, *except*
1. stone-cutting
2. machine-tool
3. construction
4. clothing manufacture

__b. The major purpose of a *generator* is to
1. build dams
2. produce rain during dry spells
3. produce electric power
4. lengthen the life span of people

__c. *Circuit breakers*
1. are large waves which destroy electric plants built too close to the ocean shore
2. help prevent breakdowns in electric power systems
3. interrupt the flow of electric power
4. are trouble shooters who repair electric lines after storms

__d. A *turbine* is
1. an engine in which the driving parts rotate
2. a head covering which protects workers from the sun
3. a detailed plan for the construction of hydroelectric plants
4. a machine for lifting great weights

__e. The chief purpose of an *industrial X-ray machine* is to
1. stop the growth of cancer cells
2. prevent workers from being injured by radiation
3. control the growth of germs which contribute to absences
4. look inside metal to uncover any defects

__f. *Radar screens* are used chiefly to
1. show three-dimensional motion pictures
2. provide protection against metal-piercing shells
3. predict weather
4. spot moving aircraft

Answers: a-4; b-3; c-2; d-1; e-4; f-4.

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